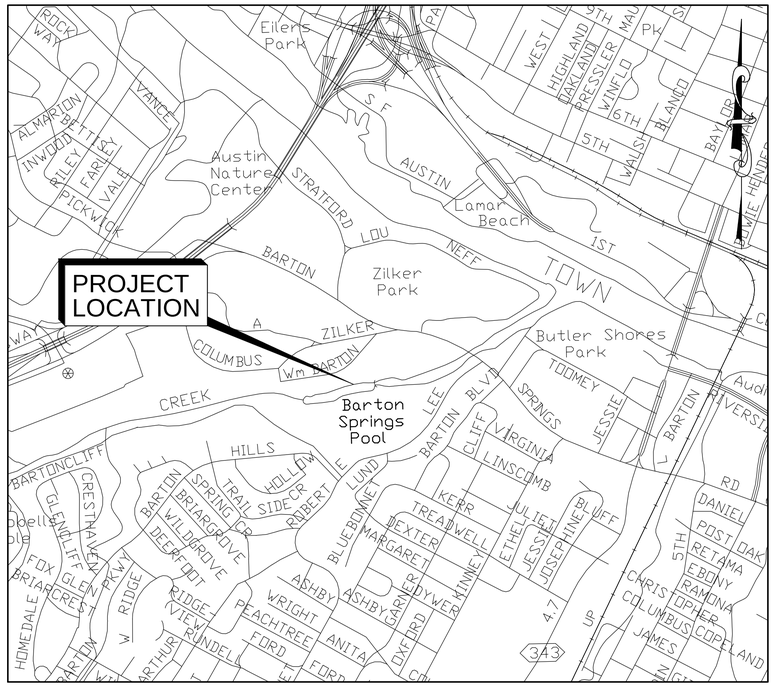
Austin City Council:

Steve Adler - Mayor
Kathie Tovo - Mayor Pro Tem
Ora Houston
Delia Garza
Sabino Renteria
Gregorio Casar
Ann Kitchen
Don Zimmerman
Leslie Pool
Ellen Troxclair
Sheri Gallo

Austin City Manager:

Marc A. Ott



VICINITY MAP

1"=2000'

COA GRID: H22
MAPSCO #: 584Y

NOTES:

1. THIS PROJECT IS LOCATED IN THE BARTON CREEK WATERSHED.
2. THIS PROJECT IS LOCATED IN THE BARTON SPRINGS ZONE.
3. THIS PROJECT IS PARTIALLY LOCATED OVER THE EDWARDS AQUIFER RECHARGE ZONE
4. THIS PROJECT IS LOCATED WITHIN THE 100-YEAR FLOODPLAIN PER FEMA MAP NO. 48453C0445H.
5. THIS PROJECT IS SUBJECT TO THE VOID AND WATER FLOW MITIGATION RULE (ECM 1.12.0) AND COA STANDARD SPECIFICATION ITEM 658S, ALL TRENCHING GREATER THAN 5 FT DEEP MUST BE INSPECTED BY A GEOLOGIST (TEXAS P.G. OR A GEOLOGISTS REPRESENTATIVE).
6. THE PROJECT SITE IS ZONED PUBLIC-P AND PUBLIC-HISTORIC P-H.
7. AN AMENDMENT TO THE SAVE OUR SPRINGS ORDINANCE WILL BE REQUIRED TO ALLOW CONSTRUCTION OF THIS PROJECT WITHIN THE BARTON SPRINGS ZONE.
8. CALL ONE CALL CENTER (1-800-344-8377) FOR UTILITY LOCATIONS PRIOR TO ANY WORK IN CITY EASEMENTS OR STREETS RIGHT-OF-WAY.
9. NOTIFY THE PUBLIC WORKS DEPARTMENT, IN WRITING, TWENTY FOUR (24) HOURS PRIOR TO STARTING CONSTRUCTION OR CLEARING OPERATIONS.
10. RELEASE OF THE APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY, AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY THE CITY ENGINEERS.

Construction Drawings for

ELIZA SPRING OUTLET DAYLIGHTING

BARTON SPRINGS POOL AREA

C.I.P. No. 6660.046

SITE ADDRESS: 2201 Barton Springs Rd
Austin, TX 78746

HDR Project No.
000000000220162

Austin, Texas
JULY 2015

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF SCOTT M. MUCHARD TEXAS P.E. NO. 89409 DATE: JULY 24, 2015

IT IS NOT TO BE USED FOR CONSTRUCTION OR ANY OTHER PURPOSE.

ISSUED FOR 90% REVIEW
JULY 24, 2015

INDEX OF DRAWINGS

Number	Description	Revised (R) Add (A) Void (V) Sheet No.'s	Total # Sheets in Plan Set	Net Change Imp. Cover (Sq. Ft.)	Total Site Imp Cover (Sq.Ft.)	City Of Austin Approval Date	Date Imaged

HDR Engineering, Inc.
Firm Registration No. 754
4401 West Gate Blvd., Ste 400
Austin,Tx 78745
Ph: (512)912-5100
Fax: (512)912-5158

OWNER:
City of Austin

MANAGING DEPARTMENT CONTACT:
Jules Parrish, Project Manager
Public Works Department
505 Barton Springs Road
9th Floor
Austin, TX 78704
(512) 974-9385 Fax: (512) 974-7222

SPONSORING DEPARTMENT CONTACT:
Donelle Robinson, Project Sponsor
WPD
505 Barton Springs Road
11th Floor
Austin, TX 78704
(512) 974-1242 Fax: (512) 974-2846

ENGINEER OF RECORD:
Scott M. Muchard P.E., C.F.M.
HDR Engineering, Inc.
4401 West Gate Blvd., Ste. 400
Austin, Texas 78745
Phone: (512) 912-5100
Fax: (512) 912-5158

Sponsoring Department:

Watershed Protection Department — Date

Managing Department:

Watershed Protection Department — Date

Submitted By:

HDR Engineering — Date

Reviewed By:

For Director, Planning and Development Review Department — Date

SP-####-####
Site Plan/ Development Permit Number — Date

SUBMITTAL DATE: XXXXXXXXX

GENERAL CONSTRUCTION NOTES

1. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF AUSTIN MUST RELY ON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

2. CONTRACTOR SHALL CALL THE ONE CALL CENTER (1-800-344-8377) FOR UTILITY LOCATIONS PRIOR TO ANY WORK IN CITY EASEMENTS OR STREET R.O.W.

3. CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTION DIVISION OF THE CITY'S ONE STOP SHOP (OSS) AT 974-6360 OR 974-7034 AT LEAST 24 HOURS PRIOR TO THE INSTALLATION OF ANY DRAINAGE FACILITY WITHIN A DRAINAGE EASEMENT OR STREET R.O.W. THE METHOD OF PLACEMENT AND COMPACTION OF BACKFILL IN THE CITY'S R.O.W. MUST BE APPROVED PRIOR TO THE START OF BACKFILL OPERATIONS.

4. FOR SLOPES OR TRENCHES GREATER THAN FIVE FEET IN DEPTH, A NOTE MUST BE ADDED STATING: "ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION." (OSHA STANDARDS MAY BE PURCHASED FROM THE GOVERNMENT PRINTING OFFICE; INFORMATION AND RELATED REFERENCE MATERIALS MAY BE PURCHASED FROM OSHA, 611 EAST 6TH STREET, AUSTIN TEXAS.)

5. ALL SITE WORK MUST ALSO COMPLY WITH ENVIRONMENTAL REQUIREMENTS.

6. UPON COMPLETION OF THE PROPOSED SITE IMPROVEMENTS AND PRIOR TO THE FOLLOWING, THE ENGINEER SHALL CERTIFY IN WRITING THAT THE PROPOSED DRAINAGE, FILTRATION AND DETENTION FACILITIES WERE CONSTRUCTED IN CONFORMANCE WITH THE APPROVED PLANS:

   - RELEASE OF THE CERTIFICATE OF OCCUPANCY BY THE PLANNING AND DEVELOPMENT REVIEW DEPARTMENT (INSIDE THE CITY LIMITS); OR
   - INSTALLATION OF AN ELECTRIC OR WATER METER (IN THE FIVE-MILE ETJ).

SPECIAL CONSTRUCTION NOTES

1. BLASTING WITHIN THE PROJECT AREA WILL NOT BE ALLOWED WITHOUT A SEPARATE BLASTING PERMIT.

2. BURNING WILL NOT BE ALLOWED ONSITE.

3. THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN BARRICADES, WARNING SIGNS, FLASHERS AND OTHER DEVICES OF THE TYPE AND SIZE AS INDICATED IN THE LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, OR AS DIRECTED BY THE ENGINEER.

4. THE CONTRACTOR SHALL MAINTAIN AT LEAST ONE DUST-FREE LANE FOR TRAFFIC WITH FLAGMEN DURING CONSTRUCTION ACTIVITIES AND TWO LANES AT ALL OTHER TIMES. ACCESS TO CONTIGUOUS PRIVATE PROPERTIES SHALL BE MAINTAINED AT ALL TIMES.

5. ALL STRUCTURAL CONCRETE SHALL BE CLASS "A" (5 SACK, 25-8-36100 PSI @ 28 DAYS) AND ALL REINFORCING STEEL SHALL BE GRADE SIXTY, UNLESS OTHERWISE NOTED.

6. THE CONTRACTOR SHALL NOT DISPOSE OF SURPLUS EXCAVATED MATERIAL FROM THE SITE WITHOUT NOTIFYING THE ENVIRONMENTAL INSPECTOR, AT 974-2278, 48 HOURS PRIOR TO THE REMOVAL. THIS NOTIFICATION SHALL INCLUDE THE DISPOSAL LOCATION AND A COPY OF THE PERMIT ISSUED TO RECEIVE THE MATERIAL, IF APPLICABLE.

7. UTILITIES SHOWN REFLECT THE BEST INFORMATION AVAILABLE AT THE TIME THE PROJECT WAS SURVEYED. UTILITY RELOCATION WORK HAS BEEN OR WILL BE ACCOMPLISHED TO CLEAR THE WORK SPACE. THESE RELOCATIONS ARE NOT REFLECTED ON THESE DRAWINGS. FOR EXACT LOCATIONS CALL 472-2822, 48 HOURS PRIOR TO BEGINNING EXCAVATION.

8. SIGNS IN THE WAY OF CONSTRUCTION SHALL BE REMOVED AND RELOCATED AS SOON AS POSSIBLE. ALL TRAFFIC CONTROL SIGNS, INCLUDING STOP AND STREET-NAME SIGNS, SHALL NOT BE REMOVED OR RELOCATED WITHOUT THE APPROVAL OF THE PROJECT INSPECTOR AND THE TRANSPORTATION ENGINEERING DIVISION OF THE DEPARTMENT OF TRANSPORTATION. THIS WORK SHALL BE SUBSIDIARY TO OTHER BID ITEMS.

9. ALL SITE WORK MUST COMPLY WITH THE ENVIRONMENTAL REQUIREMENTS.

10. THE CONTRACTOR SHALL ERECT AND MAINTAIN A FILTER FABRIC FENCE AT LOCATIONS SHOWN ON THE PLANS AND ANY OTHER LOCATIONS DESIGNATED BY THE ENGINEER. PAYMENT WILL BE MADE UNDER ITEM NO. 620 FILTER FABRIC FENCE.

11. ANY UTILITY METERS IN THE WAY OF THE CONSTRUCTION WILL BE RELOCATED OUTSIDE OF THE PROPOSED CONSTRUCTION AREA BY THE UTILITY OWNER UNLESS SUCH WORK AFFECTING THOSE METERS IS INCLUDED IN THE CONTRACT.

12. ANY AREAS TO RECEIVE TRANSITION PAVEMENT SHALL BE CONSTRUCTED WITH THE SAME TYPICAL SECTION AS THE ADJACENT NEW CONSTRUCTION.

13. ANY EXISTING SIDEWALKS, CURBS OR DRIVEWAYS DISTURBED BY THE CONSTRUCTION SHALL BE REMOVED AND RESTORED WITH SURFACE MATERIALS EQUAL TO OR BETTER THAN THE ORIGINAL.

14. THE REMOVAL OF EXISTING DRIVEWAY PIPE CULVERTS, RIPRAP AND HEADWALLS IN THE WAY OF CONSTRUCTION WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE SUBSIDIARY TO OTHER BID ITEMS.

15. IN AREAS WHERE EXISTING CURBS AND GUTTERS ARE TO REMAIN, THE OLD PAVING AND BASE MUST BE REMOVED AND THE NEW BASE AND PAVING PLACED AND COMPACTED SO AS NOT TO DISTURB EXISTING CURBS AND GUTTERS.

16. USE OF HYDRATED LIME SHALL BE RESTRICTED AND SHALL BE APPROVED BY OWNER. OWNER MAY DENY APPROVAL FOR USE OF HYDRATED LIME AT OWNER'S DISCRETION.

17. ALL STORM SEWER PIPE SHALL BE RCP, CLASS V, WITH BEDDING THAT CONFORMS TO COA STANDARD SPECIFICATION 510-PIPE, UNLESS OTHERWISE NOTED. ALL BEDDING MATERIAL SHALL BE APPROVED BY OWNER PRIOR TO PLACEMENT.

18. THE CONTRACTOR SHALL ERECT AND MAINTAIN FILTER FABRIC FENCE, MULCH SOCKS, AND SPILL CONTAINMENT BOOMS AT LOCATIONS SHOWN ON THE PLANS AND ANY OTHER LOCATIONS DESIGNATED BY THE ENGINEER OR OWNER. PAYMENT WILL BE MADE UNDER THE APPROPRIATE ITEMS LISTED ON THE BID FORM 300U.

19. COMPLIANCE WITH FEDERAL AND STATE ENDANGERED SPECIES PERMITS IS REQUIRED. OVERSIGHT BY CITY OF AUSTIN SALAMANDER BIOLOGIST IN ADDITION TO CITY OF AUSTIN ENVIRONMENTAL INSPECTOR IS REQUIRED THROUGHOUT THE ENTIRE CONSTRUCTION PHASE.

20. THE ENTIRE FLOOR OF THE ELIZA SPRING AMPHITHEATER IS ENDANGERED SPECIES HABITAT AND CANNOT BE IMPACTED BY CONSTRUCTION. EQUIPMENT AND CREW CANNOT ENTER THE AMPHITHEATER FLOOR, NOR CAN MATERIALS, DEBRIS, OR SILT DROP INTO IT.

21. ELIZA SPRING AMPHITHEATER IS A HISTORICAL STRUCTURE. ONLY THE PARTS NOTED TO BE REMOVED CAN BE AFFECTED. DEMOLITION AND CONSTRUCTION MUST LEAVE THE REST OF THE HISTORICAL STRUCTURE UNDAMAGED.

22. DAMAGED STRUCTURES MUST BE REPAIRED BY THE CONTRACTOR AT CONTRACTOR'S EXPENSE.

23. SPECIFIED MATERIALS, MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES SHALL NOT BE SUBSTITUTED WITHOUT APPROVAL BY OWNER.

24. COMPLIANCE WITH WPAP WAIVER IS REQUIRED.

25. COORDINATION WITH USFWS AND TPWD ARE REQUIRED. CITY OF AUSTIN WILL ARRANGE COORDINATION WITH THESE ENTITIES, AND CONTRACTOR WILL NEED TO COMPLY.

26. CONTRACTOR SHALL TAKE EXTREME CARE NOT TO DAMAGE EXISTING BURIED PIPE UNTIL WATER FLOW IS DIVERTED.

27. MAXIMUM ALLOWABLE UNIFORM LIVE LOAD ON THE BYPASS TUNNEL ROOF IS 100 PSF.

28. MAXIMUM ALLOWABLE EQUIPMENT LOAD ON THE BYPASS TUNNEL ROOF IS 2,000 LBS. EQUIPMENT DATASHEETS MUST BE SUBMITTED FOR ENGINEER/OWNER APPROVAL BEFORE EQUIPMENT WILL BE ALLOWED ON THE BYPASS TUNNEL ROOF. DATASHEETS WILL BE USED TO DETERMINE THE APPLIED LOADING ON THE BYPASS TUNNEL ROOF.

29. FOR THE PROTECTION OF NATURAL AREAS, NO EXCEPTIONS WILL BE TAKEN TO THE LOCATIONS OF FENCES AT THE LIMITS OF CONSTRUCTION AS SHOWN ON PLANS. CONTRACTOR NOT TO EXCEED THE LIMITS OF CONSTRUCTION.

30. CONTRACTOR TO NOTIFY CITY OF AUSTIN SALAMANDER BIOLOGISTS PRIOR TO WORK NEAR OR WITHIN SALAMANDER HABITAT AREA, INCLUDING ANY WORK WITHIN THE ELIZA SPRING AMPHITHEATER. CONTRACTOR SHALL COORDINATE TIMING OF WORK WITHIN THE ELIZA SPRING AMPHITHEATER WITH CITY OF AUSTIN SALAMANDER BIOLOGISTS.

31. CITY OF AUSTIN SALAMANDER BIOLOGIST MUST BE PHYSICALLY PRESENT AT ALL TIMES WHEN THE CONTRACTOR IS WORKING WITHIN THE ELIZA SPRING AMPHITHEATER.

32. CITY OF AUSTIN SALAMANDER BIOLOGIST MUST HAVE CONTINUAL ACCESS TO ALL PARTS OF THE CONSTRUCTION SITE.

33. CITY OF AUSTIN SALAMANDER BIOLOGIST HAVE IMMEDIATE STOP WORK AUTHORITY FOR ANY ACTIVITY THAT IN THEIR SOLE JUDGEMENT POSES POTENTIAL HARM TO PROTECTED SALAMANDER HABITAT.

34. NO STRUCTURAL WORK IS ALLOWED TO INTRUDE INTO THE FLOOR OF THE AMPHITHEATER WITHIN SALAMANDER HABITAT.

35. HAZARDOUS MATERIALS SHALL NOT BE ALLOWED TO ENTER ENDANGERED SPECIES HABITAT OR THE CONSTRUCTED SPRING OUTLET CHANNEL.

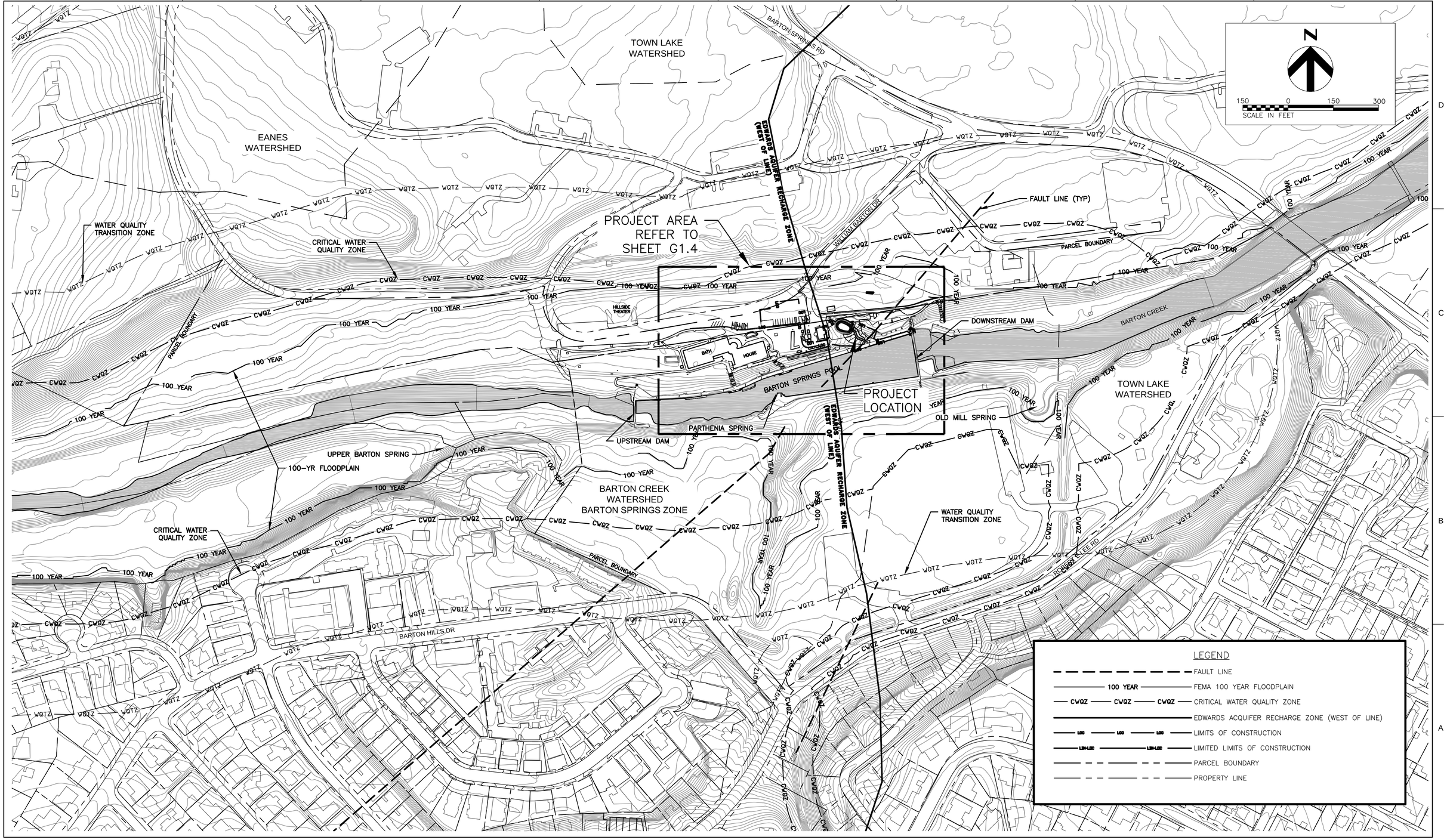
36. PROJECT CONSTRUCTION WORKING HOURS ARE FROM 7 AM TO 7 PM WEEKDAYS AND 8 AM TO 7 PM WEEKENDS.

DEVELOPER INFORMATION

OWNER: DONELLE ROBINSON, CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT
ADDRESS: 505 BARTON SPRINGS ROAD, AUSTIN, TX 78701
PHONE #: 512-974-1242
OWNER'S REPRESENTATIVE RESPONSIBLE FOR PLAN ALTERATIONS: SCOTT M. MUCHARD, P.E., HDR ENGINEERING, INC.
PHONE#: 512-912-5100
PERSON OR FIRM RESPONSIBLE FOR EROSION/SEDIMENTATION CONTROL MAINTENANCE:
PHONE#:
PERSON OR FIRM RESPONSIBLE FOR TREE/NATURAL AREA PROTECTION MAINTENANCE:
PHONE#:

AMERICANS WITH DISABILITIES ACT

THE CITY OF AUSTIN HAS REVIEWED THIS PLAN FOR COMPLIANCE WITH CITY DEVELOPMENT REGULATIONS ONLY. THE APPLICANT, PROPERTY OWNER, AND OCCUPANT OF THE PREMISES ARE RESPONSIBLE FOR DETERMINING WHETHER THE PLAN COMPLIES WITH ALL OTHER LAWS, REGULATIONS, AND RESTRICTIONS WHICH MAY BE APPLICABLE TO THE PROPERTY AND ITS USE.



Texas P.E. Firm
Registration No. F-754

ISSUE	DATE	DESCRIPTION
C	07/24/2015	90% DRAFT FOR REVIEW
B	10/3/2014	90% DRAFT FOR REVIEW
A	1/24/2014	60% DRAFT FOR REVIEW

PROJECT MANAGER	S. MUCHARD
DESIGNED BY	S. MUCHARD
DRAWN BY	C. AMARAL
CHECKED BY	C. PARKER
DATE	OCTOBER 2014
PROJECT NUMBER	220162

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF SCOTT M. MUCHARD TEXAS P.E. NO.89409 DATE: JULY 24, 2015 IT IS NOT TO BE USED FOR CONSTRUCTION OR ANY OTHER PURPOSE.

90% DRAFT

CITY OF AUSTIN FOUNDED 1839

ELIZA SPRING OUTLET DAYLIGHTING

Austin, Texas

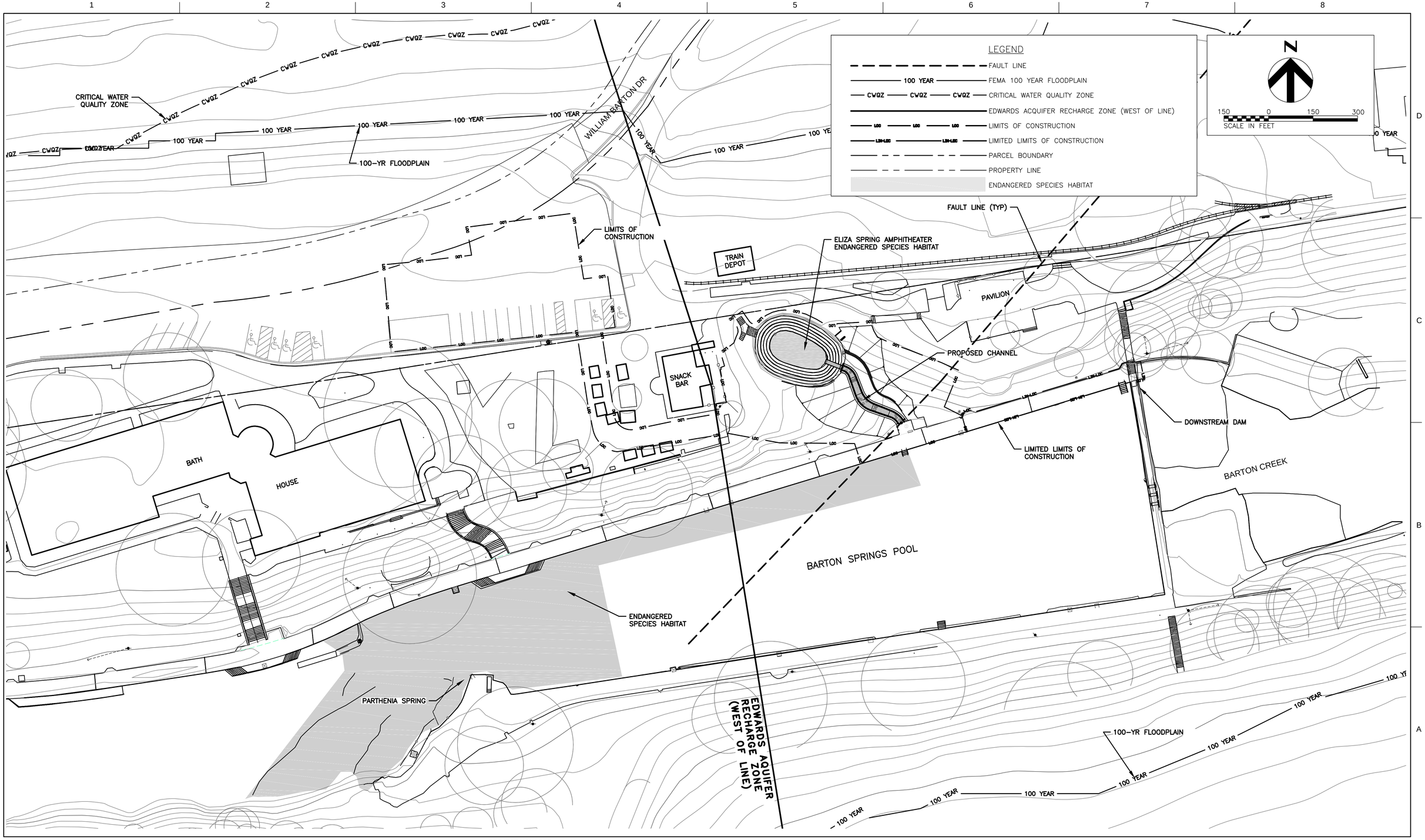
OVERALL SITE PLAN

0 1" 2"

FILENAME G1.3.DWG

SCALE 1" = 150'

SHEET G1.3



C:\pw\working\dal\d0473928\G1.4.dwg

Texas P.E. Firm
Registration No. F-754

ISSUE	DATE	DESCRIPTION
C	07/24/2015	90% DRAFT FOR REVIEW
B	10/3/2014	90% DRAFT FOR REVIEW
A	1/24/2014	60% DRAFT FOR REVIEW

PROJECT MANAGER	S. MUCHARD
DESIGNED BY	E. STEWART
DRAWN BY	C. AMARAL
CHECKED BY	C. PARKER
DATE	OCTOBER 2014
PROJECT NUMBER	220162

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF SCOTT M. MUCHARD TEXAS P.E. NO.89409 DATE: JULY 24, 2015 IT IS NOT TO BE USED FOR CONSTRUCTION OR ANY OTHER PURPOSE.

90% DRAFT

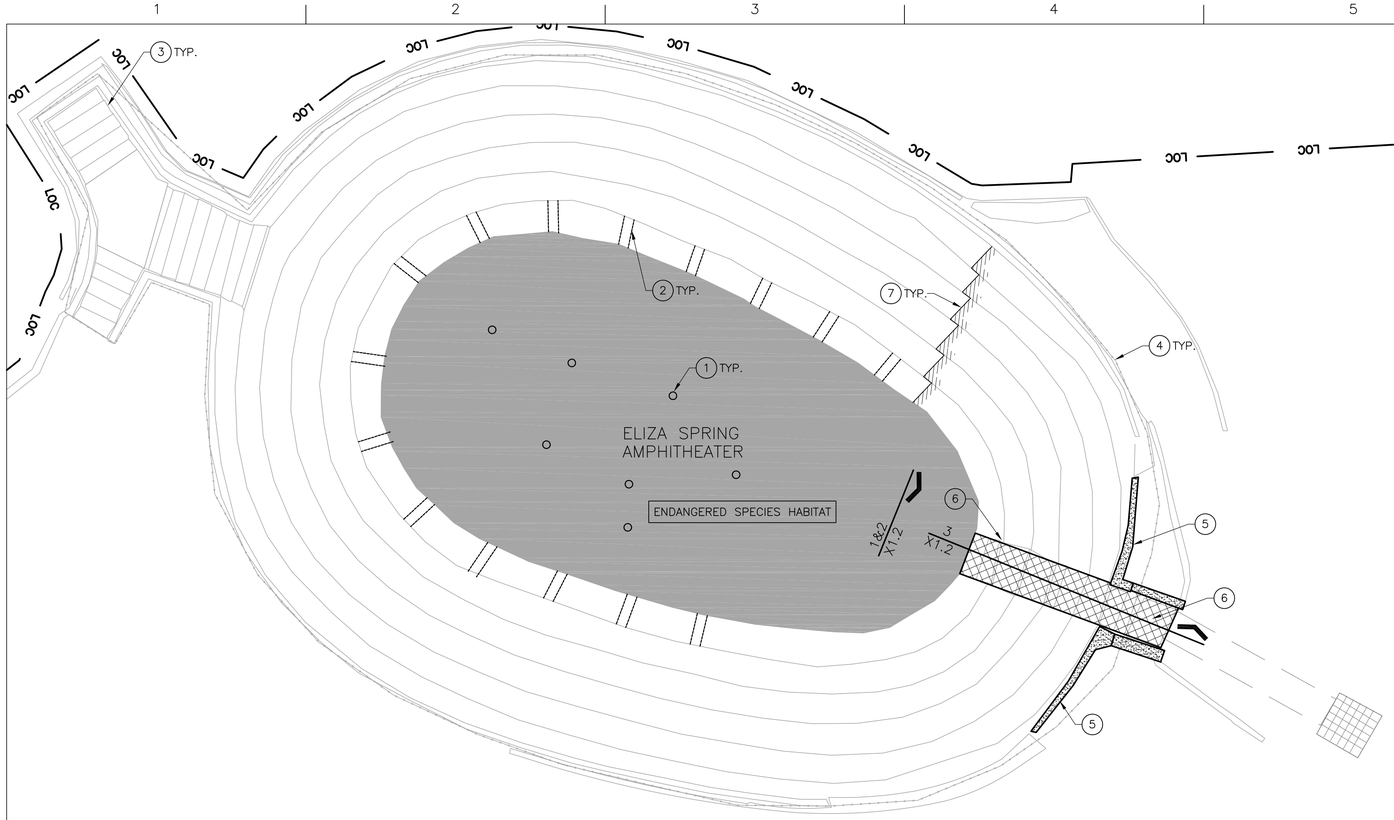
ELIZA SPRING OUTLET DAYLIGHTING

Austin, Texas

ENLARGED SITE PLAN

0 1" 2"

FILENAME	G1.4.DWG
SCALE	1" = 30'
SHEET	G1.4



STRUCTIRAL DEMOLITION PLAN
SCALE : 1" = 5'

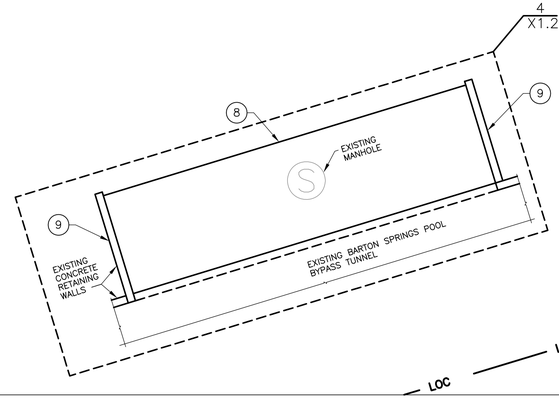
0 5' 10'
GRAPHIC SCALE

GENERAL NOTES

1. REFER TO CARE OF WATER SHEET C1.4 PRIOR TO CONSTRUCTION.
2. THE ACCURACY OF ITEMS SHOWN AS EXISTING ON DRAWINGS WAS DETERMINED FROM RECORD DRAWINGS AND FIELD OBSERVATIONS.
3. DRAWINGS ARE NOT TO BE SCALED FOR DETERMINATION OF QUANTITIES, LENGTHS, OR FIT OF MATERIALS.
4. DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHODS OF CONSTRUCTION UNLESS SO STATED OR NOTED. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE, THE WORKMEN AND ALL OTHER PERSONS DURING CONSTRUCTION.
5. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING AND SHORING OF ALL WORK AS REQUIRED FOR STABILITY OF THE STRUCTURE DURING ALL PHASES OF CONSTRUCTION. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONDITION WHICH, IN HIS/HER OPINION, MIGHT ENDANGER THE STABILITY OF THE STRUCTURE OR CAUSE DISTRESS IN THE STRUCTURE.
6. ALL EXISTING CONDITIONS AND DIMENSIONS SHALL BE FIELD VERIFIED PRIOR TO PREPARATION OF SHOP DRAWINGS AND THE BEGINNING OF THE CONSTRUCTION PROCESS.
7. ENTIRE AMPHITHEATER FLOOR IS ENGDANDERED SPECIES HABITAT AND CANNOT BE IMPACTED BY CONSTRUCTION.
8. EQUIPMENT AND PEOPLE CANNOT ENTER THE FLOOR, NOR CAN ANY MATERIALS OR SILT DROP INTO IT. PROVIDE NETTING OR OTHER BARRIERS (APPROVED BY OWNER) TO PREVENT CONSTRUCTION DEBRIS FROM ENTERING AMPHITHEATER FLOOR.
9. PRECAUTION NEEDS TO BE TAKEN WHEN REMOVING THE KEYWAY TO PREVENT DEWATERING OF THE AMPHITHEATER FLOOR. REFER TO SHEET C1.4 FOR CARE OF WATER. DEMOLITION ACTIVITIES SHALL BE COORDINATED WITH CITY OF AUSTIN BIOLOGIST. BIOLOGIST MAY NEED TO MOVE HABITAT AND SALAMANDERS ADJACENT TO REMOVAL OF GRATING AND PIPE TO PREVENT INJURY/DEATH.
10. ELIZA SPRING AMPHITHEATER IS A HISTORICAL STRUCTURE. ONLY THE PARTS NOTED TO BE REMOVED CAN BE AFFECTED. DEMOLITION AND CONSTRUCTION MUST LEAVE THE REST OF THE HISTORICAL STRUCTURE UNDAMAGED.
11. DAMAGED STRUCTURES MUST BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.
12. EQUIPMENT USED IN AMPHITHEATER SHALL BE HAND OR ELECTRIC POWERED.

KEYED NOTES:

1. SPRING OUTLETS IN BOTTOM OF SLAB.
2. SPRING OUTLETS IN FACE OF RISER.
3. ACCESS STAIRS TO AMPHITHEATER.
4. EXISTING PERIMETER FENCE TO REMAIN. SEE SHEET X1.2.
5. MASONRY WALL INFILL TO BE REMOVED.
6. EXISTING LIMESTONE STEPS TO BE REMOVED.
7. EXISTING CONCRETE STEPS TO BE REMAIN.
8. EXISTING CONCRETE JUNCTION BOX TO BE REMOVED.
9. EXISTING CONCRETE RETAINING WALL TO BE REMOVED.



Jose I. Guerra, Inc.
Consulting Engineers
2401 South IH-35 Suite 210
Austin, Texas 78741
(512) 445-2090
Structural • Civil • Mechanical • Electrical
TBPE FIRM F-3

Texas P.E. Firm
Registration No. F-754

ISSUE	DATE	DESCRIPTION
C	07-20-15	90% DRAFT FOR REVIEW
B	10/03/14	90% DRAFT FOR REVIEW

PROJECT MANAGER	JL
DESIGNED BY	JL
DRAWN BY	FS
CHECKED BY	JL
DATE	07-20-15
PROJECT NUMBER	220162

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF KENNETH W. HANKS #97528 JULY, 2015

IT IS NOT TO BE USED FOR CONSTRUCTION OR ANY OTHER PURPOSE.

ELIZA SPRING OUTLET DAYLIGHTING

Austin, Texas

STRUCTURAL DEMOLITION PLAN

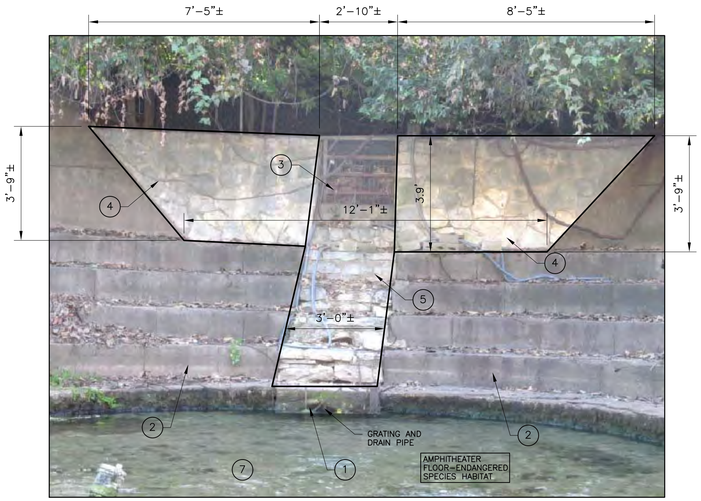
0 1" 2"

FILENAME

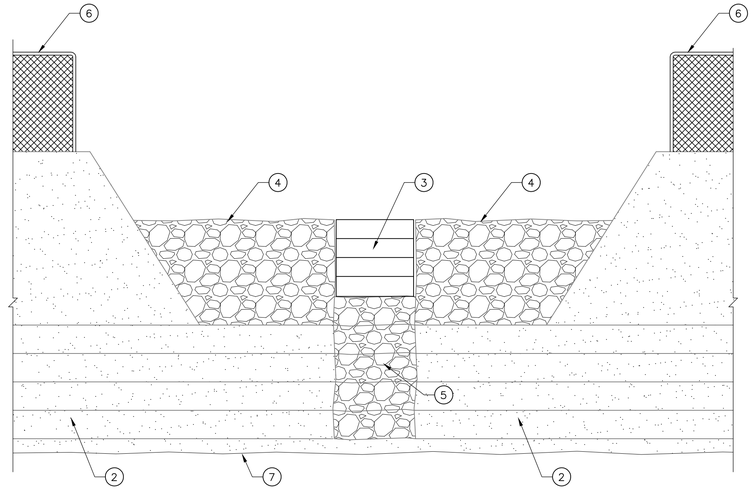
SCALE AS NOTED

SHEET X1.1

CADFILE:F:\13025_Eliza_Springs_Daylighting_Design\DRAWINGS\CAD\X1.1.dwg Plotted: Jul 20, 15 @ 10:14 am by: fsolis Scale: 1:5



1 ELEVATION – MASONRY INFILL TO BE REMOVED
NO SCALE



2 ELEVATION – MASONRY INFILL TO BE REMOVED
NO SCALE

GENERAL NOTES

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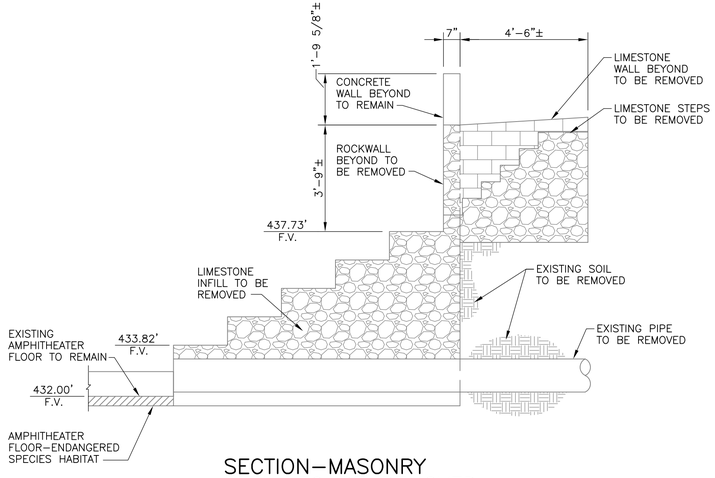
10. ELIZA SPRING AMPHITHEATER IS A HISTORICAL STRUCTURE. ONLY THE PARTS NOTED TO BE REMOVED CAN BE AFFECTED. DEMOLITION AND CONSTRUCTION MUST LEAVE THE REST OF THE HISTORICAL STRUCTURE UNDAMAGED.
11. DAMAGED STRUCTURES MUST BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.
12. EQUIPMENT USED IN AMPHITHEATER SHALL BE HAND OR ELECTRIC POWERED.

KEYED NOTES:

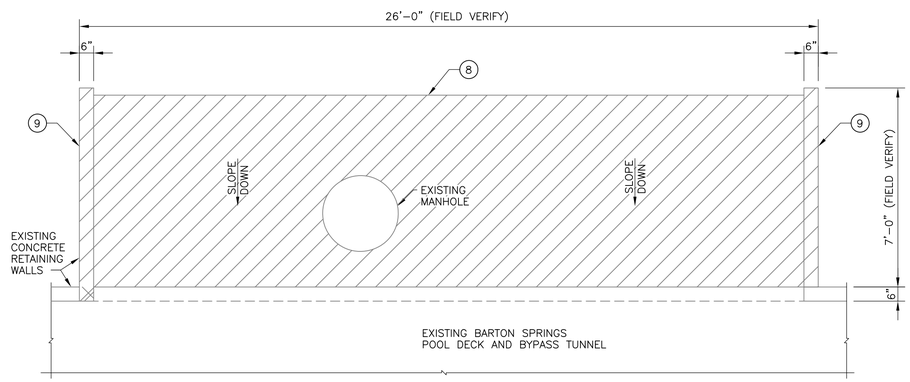
1. EXISTING GRATING AND OUTLET PIPE TO BE REMOVED.
2. EXISTING CONCRETE AMPHITHEATER SEATING STEPS TO REMAIN.
3. EXISTING STEEL GATE TO BE REMOVED.
4. EXISTING LIMESTONE MASONRY INFILL TO BE REMOVED.
5. EXISTING LIMESTONE MASONRY STEPS TO BE REMOVED.
6. EXISTING PERIMETER FENCE TO REMAIN.
7. EXISTING AMPHITHEATER FLOOR TO REMAIN.
8. EXISTING CONCRETE JUNCTION BOX TO BE REMOVED.
9. EXISTING CONCRETE RETAINING WALL TO BE REMOVED.

LEGEND:

PERIMETER FENCE
LIMESTONE MASONRY
CONCRETE
SOIL



3 SECTION–MASONRY INFILL TO BE REMOVED
SCALE: 3/8" = 1'–0"



4 JUNCTION BOX DEMOLITION PLAN
SCALE: 3/8" = 1'–0"

Jose I. Guerra, Inc.
Consulting Engineers
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Structural • Civil • Mechanical • Electrical
TBPE FIRM F-3

Texas P.E. Firm
Registration No. F-754

ISSUE	DATE	DESCRIPTION
C	07–20–15	90% DRAFT FOR REVIEW
B	10/03/14	90% DRAFT FOR REVIEW

PROJECT MANAGER	JL
DESIGNED BY	JL
DRAWN BY	FS
CHECKED BY	JL
DATE	07–20–15
PROJECT NUMBER	220162

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF KENNETH W. HANKS #97528 JULY, 2015

IT IS NOT TO BE USED FOR CONSTRUCTION OR ANY OTHER PURPOSE.

CITY OF AUSTIN FOUNDED 1839

ELIZA SPRING OUTLET DAYLIGHTING

Austin, Texas

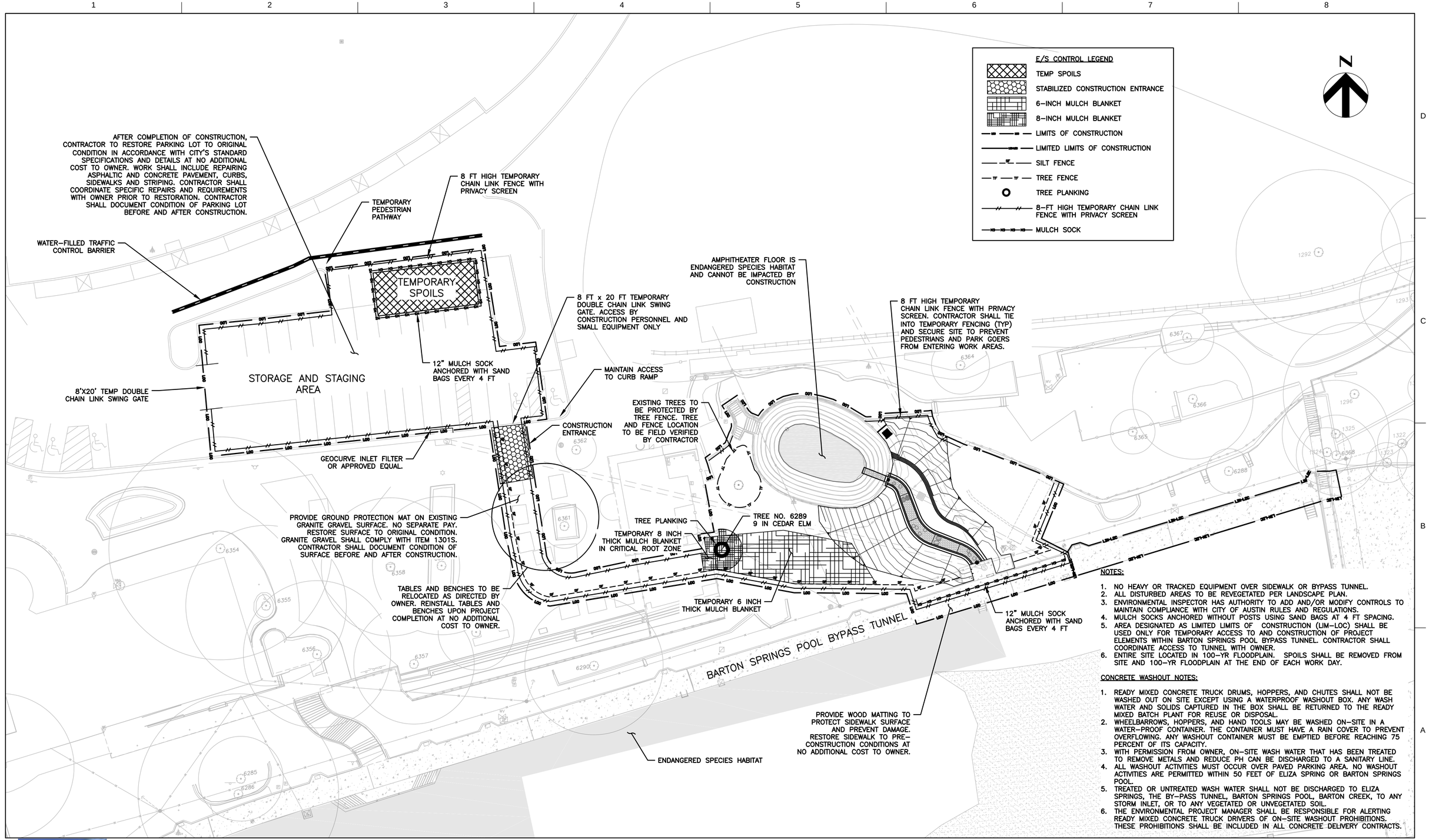
STRUCTURAL DEMOLITION ELEVATIONS AND ENLARGED PLANS

0 1" 2"

FILENAME

SCALE AS NOTED

SHEET X1.2



NOTES:

1. NO HEAVY OR TRACKED EQUIPMENT OVER SIDEWALK OR BYPASS TUNNEL.
2. ALL DISTURBED AREAS TO BE REVEGETATED PER LANDSCAPE PLAN.
3. ENVIRONMENTAL INSPECTOR HAS AUTHORITY TO ADD AND/OR MODIFY CONTROLS TO MAINTAIN COMPLIANCE WITH CITY OF AUSTIN RULES AND REGULATIONS.
4. MULCH SOCKS ANCHORED WITHOUT POSTS USING SAND BAGS AT 4 FT SPACING.
5. AREA DESIGNATED AS LIMITED LIMITS OF CONSTRUCTION (LIM-LOC) SHALL BE USED ONLY FOR TEMPORARY ACCESS TO AND CONSTRUCTION OF PROJECT ELEMENTS WITHIN BARTON SPRINGS POOL BYPASS TUNNEL. CONTRACTOR SHALL COORDINATE ACCESS TO TUNNEL WITH OWNER.
6. ENTIRE SITE LOCATED IN 100-YR FLOODPLAIN. SPOILS SHALL BE REMOVED FROM SITE AND 100-YR FLOODPLAIN AT THE END OF EACH WORK DAY.

CONCRETE WASHOUT NOTES:

1. READY MIXED CONCRETE TRUCK DRUMS, HOPPERS, AND CHUTES SHALL NOT BE WASHED OUT ON SITE EXCEPT USING A WATERPROOF WASHOUT BOX. ANY WASH WATER AND SOLIDS CAPTURED IN THE BOX SHALL BE RETURNED TO THE READY MIXED BATCH PLANT FOR REUSE OR DISPOSAL.
2. WHEELBARROWS, HOPPERS, AND HAND TOOLS MAY BE WASHED ON-SITE IN A WATER-PROOF CONTAINER. THE CONTAINER MUST HAVE A RAIN COVER TO PREVENT OVERFLOWING. ANY WASHOUT CONTAINER MUST BE EMPTIED BEFORE REACHING 75 PERCENT OF ITS CAPACITY.
3. WITH PERMISSION FROM OWNER, ON-SITE WASH WATER THAT HAS BEEN TREATED TO REMOVE METALS AND REDUCE PH CAN BE DISCHARGED TO A SANITARY LINE.
4. ALL WASHOUT ACTIVITIES MUST OCCUR OVER PAVED PARKING AREA. NO WASHOUT ACTIVITIES ARE PERMITTED WITHIN 50 FEET OF ELIZA SPRING OR BARTON SPRINGS POOL.
5. TREATED OR UNTREATED WASH WATER SHALL NOT BE DISCHARGED TO ELIZA SPRINGS, THE BY-PASS TUNNEL, BARTON SPRINGS POOL, BARTON CREEK, TO ANY STORM INLET, OR TO ANY VEGETATED OR UNVEGETATED SOIL.
6. THE ENVIRONMENTAL PROJECT MANAGER SHALL BE RESPONSIBLE FOR ALERTING READY MIXED CONCRETE TRUCK DRIVERS OF ON-SITE WASHOUT PROHIBITIONS. THESE PROHIBITIONS SHALL BE INCLUDED IN ALL CONCRETE DELIVERY CONTRACTS.

GLENROSE ENGINEERING

Texas P.E. Firm
Registration No. F-754

ISSUE	DATE	DESCRIPTION
C	07/24/2015	90% DRAFT FOR REVIEW
B	10/3/2014	90% DRAFT FOR REVIEW
A	1/24/2014	60% DRAFT FOR REVIEW

PROJECT MANAGER	S. MUCHARD
DESIGNED BY	L. ROSS
DRAWN BY	C. AMARAL
CHECKED BY	C. PARKER
DATE	JULY 2015
PROJECT NUMBER	220162

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF D. LAUREN ROSS TEXAS P.E. NO.56647 DATE: JULY 24, 2015
IT IS NOT TO BE USED FOR CONSTRUCTION OR ANY OTHER PURPOSE.
90% DRAFT

CITY OF AUSTIN FOUNDED 1839

ELIZA SPRING OUTLET DAYLIGHTING

Austin, Texas

EROSION/SEDIMENTATION CONTROL AND TREE PROTECTION PLAN

0 1" 2"

FILENAME	C1.1.DWG
SCALE	1"=20'
SHEET	C1.1

C:\pwworking\da\d0473928\C1.1.dwg

1 | 2 | 3 | 4 | 5 | 6 | 7 | 8

SEQUENCE OF CONSTRUCTION

1. PUBLIC ACCESS TO THE POOL SHALL REMAIN OPEN FOR THE DURATION OF THIS PROJECT. CONTRACTOR SHALL COORDINATE WITH PARD THROUGHOUT THE DURATION OF THE PROJECT FOR ANY TEMPORARY RELOCATION OF PUBLIC ACCESS ROUTES.
2. WORK SHALL BE COMPLETED DURING THE OFF-PEAK SEASON BETWEEN OCTOBER 1 AND FEBRUARY 28. REFER TO PROJECT MANUAL FOR CONTRACT REQUIREMENTS.
3. SUBMIT AND RECEIVE OWNER APPROVAL OF A SPILL PREVENTION AND CONTROL PLAN PER SS130300.
4. INSTALL TEMPORARY SECURITY FENCE.
5. INSTALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS AS INDICATED ON THE EROSION/SEDIMENTATION CONTROL AND TREE PROTECTION PLAN. INSTALL TREE PROTECTION AS INDICATED ON THE EROSION/SEDIMENTATION CONTROL AND TREE PROTECTION PLAN AND INITIATE TREE MITIGATION MEASURES.
6. CONTACT THE WATERSHED PROTECTION DEPARTMENT, ENVIRONMENTAL INSPECTION AT 512-974-2278, 72 HOURS PRIOR TO THE SCHEDULED DATE OF THE REQUIRED ON-SITE PRECONSTRUCTION MEETING.
7. REVISE TEMPORARY EROSION AND SEDIMENTATION CONTROLS, IF NEEDED, TO COMPLY WITH CITY INSPECTORS' DIRECTIVES.
8. INSPECT AND MAINTAIN TEMPORARY EROSION AND SEDIMENTATION CONTROLS IN ACCORDANCE WITH THE SITE PLAN REQUIREMENTS.
9. BEGIN SITE CLEARING/CONTRUCTION ACTIVITIES. PROJECT COMPONENTS SHALL BE CONSTRUCTED IN THE ORDER DESCRIBED BELOW. AN ALTERNATE PHASING PLAN MAY BE SUBMITTED FOR REVIEW AND APPROVAL, BUT WILL ONLY BE CONSIDERED IF THE ALTERNATE PLAN IS MORE PROTECTIVE OF ENDANGERED SPECIES AND ENVIRONMENTAL QUALITY THAN THE SEQUENCE PROVIDED HEREIN.
   A. IMPLEMENT BYPASS TUNNEL COFFERDAM AT LOCATION OF PROPOSED JUNCTION BOX (COFFERDAM NO.1). (REFER TO SHEET C1.4.)
   B. CONSTRUCT PROPOSED STORM DRAIN LINE B, INCLUDING PROPOSED BYPASS TUNNEL JUNCTION BOX. (REFER TO SHEET C3.4.) IMPLEMENT EXCAVATION DEWATERING AS NECESSARY. (REFER TO SHEET C1.4.) TEMPORARILY BLOCK TUNNEL OPENING AND/OR STORM DRAIN LINE B AND CHANNEL FLOW CONTROL GATE ENTRANCES TO THE JUNCTION BOX TO PREVENT WATER DISCHARGE FROM THE CONSTRUCTION SITE INTO THE BYPASS TUNNEL. (REFER TO SHEET C1.4.) TEMPORARY BLOCKING OF TUNNEL OPENING AND/OR STORM DRAIN LINE B AND FLOW CONTROL GATE ENTRANCES MAY BE REMOVED WITH OWNER APPROVAL UPON COMPLETION OF STORM DRAIN LINE B AND INSTALLATION OF JUNCTION BOX CHANNEL FLOW CONTROL GATE. FLOW CONTROL GATE SHALL REMAIN CLOSED UNTIL OPENING OF GATES IS APPROVED BY OWNER AS DESCRIBED IN (K) BELOW.
   C. INSTALL SALAMANDER EXCLUSION SCREEN AT AMPHITHEATER KEYWAY ENTRANCE. (REFER TO SHEET C1.4.)
   D. CONTRACTOR SHALL NOTIFY OWNER 48 HOURS PRIOR TO INITIATING SPRING FLOW DIVERSION AND/OR AMPHITHEATER KEYWAY DEWATERING. INSTALL AND ACTIVATE AMPHITHEATER KEYWAY DEWATERING COFFERDAM (COFFERDAM NO. 2) AND PUMP. (REFER TO SHEET C1.4.)
   E. CONSTRUCT TEMPORARY GRAVITY-FED SPRING FLOW DIVERSION JUNCTION BOX AND PIPE FROM AMPHITHEATER TO STORM DRAIN LINE B MANHOLE. (REFER TO SHEET C1.4.) CARRY OUT CONSTRUCTION ACTIVITIES IN A MANNER SO AS TO MINIMIZE TIME DURING WHICH USE OF AMPHITHEATER KEYWAY DEWATERING PUMPING SYSTEM IS REQUIRED.
   F. REMOVE COFFERDAM NO. 2 AND DE-ACTIVATE AMPHITHEATER KEYWAY DEWATERING PUMP TO ALLOW GRAVITY FLOW FROM THE AMPHITHEATER THROUGH THE EXISTING OUTFALL PIPE IN THE KEYWAY INTO THE TEMPORARY GRAVITY-FED SPRING FLOW DIVERSION. CONSULT WITH OWNER REGARDING SUITABILITY OF AMPHITHEATER WATER LEVELS FOR ENDANGERED SPECIES HABITAT. PROVIDE SUPPLEMENTAL PUMPING OR RESTRICTION OF DIVERSION IF DIRECTED BY OWNER TO ADJUST WATER LEVEL IN AMPHITHEATER.
   G. IMPLEMENT BYPASS-TUNNELL COFFERDAM AT STORM DRAIN LINE A (COFFERDAM NO. 3). (REFER TO SHEET C1.4.) CONSTRUCT STORM DRAIN LINE A (REFER TO SHEET C3.2), IMPLEMENTING EXCAVATION DEWATERING AS NECESSARY (REFER TO SHEET C1.4).
   H. SCHEDULE A MID-CONSTRUCTION CONFERENCE TO COORDINATE CHANGES IN THE CONSTRUCTION SCHEDULE AND EVALUATE EFFECTIVENESS OF THE EROSION CONTROL PLAN AFTER POSSIBLE CONSTRUCTION ALTERATIONS TO THE SITE. PARTICIPANTS SHALL INCLUDE THE CITY INSPECTOR, CITY BIOLOGIST, PROJECT ENGINEER, GENERAL CONTRACTOR AND ENVIRONMENTAL PROJECT MANAGER OR SITE SUPERVISOR. THE ANTICIPATED COMPLETION DATE AND FINAL CONSTRUCTION SEQUENCE AND INSPECTION SCHEDULE WILL BE COORDINATED WITH THE APPROPRIATE CITY INSPECTOR.
   I. CONSTRUCT OUTLET CHANNEL SLOPE SYSTEMS DOWNSTREAM OF TEMPORARY GRAVITY-FED SPRING FLOW DIVERSION JUNCTION BOX. (REFER TO SHEET C2.4.) REFER TO SHEET C2.5 FOR ADDITIONAL COMMENTARY ON SLOPE SYSTEM CONSTRUCTION PHASING. IMPLEMENT EXCAVATION DEWATERING AS NECESSARY. (REFER TO SHEET C1.4.)
   J. IMPLEMENT AMPHITHEATER KEYWAY DEWATERING COFFERDMAN (COFFERDAM NO. 2) AND PUMP AND REMOVE TEMPORARY GRAVITY SPRING FLOW DIVERSION. (REFER TO SHEET C1.4.) CONTRACTOR SHALL NOTIFY OWNER 48 HOURS PRIOR TO INITIATING ANY NEW PHASE OF AMPHITHEATER KEYWAY DEWATERING. COMPLETE OUTLET CHANNEL CONSTRUCTION (REFER TO SHEET C2.4), INCLUDING DEMOLITION OF AMPHITHEATER KEYWAY MASONRY AND LIMESTONE STEPS (REFER TO SHEET X1.1), CONSTRUCTION OF AMPHITHEATER HEADWALL AND FLOW CONTROL GATE (REFER TO SHEET S1.1), AND INSTALLATION OF CHANNEL SUBSTRATE MATERIAL. IF REMOVED FOR KEYWAY DEMOLITION, REINSTALL SALAMANDER EXCLUSION SCREEN AT AMPHITHEATER KEYWAY. CARRY OUT CONSTRUCTION ACTIVITIES IN A MANNER SO AS TO MINIMIZE TIME DURING WHICH USE OF AMPHITHEATER PUMPING SYSTEM IS REQUIRED.
   K. UPON RECEIVING APPROVAL FROM OWNER, CEASE AMPHITHEATER KEYWAY DEWATERING AND OPEN AMPHITHEATER AND JUNCTION BOX FLOW CONTROL GATES TO RELEASE SPRING FLOW INTO THE OUTLET CHANNEL AND TO THE BYPASS TUNNEL.
10. COMPLETE CONSTRUCTION AND REVEGETATION OF THE SITE AND INSTALL REMAINING LANDSCAPING AND IRRIGATION.
11. UPON COMPLETION OF THE SITE CONSTRUCTION AND PROJECT SITE REVEGETATION, THE DESIGN ENGINEER SHALL SUBMIT AN ENGINEER'S LETTER OF CONCURRENCE TO THE WATERSHED PROTECTION DEPARTMENT INDICATING THAT CONSTRUCTION IS COMPLETE AND IN SUBSTANTIAL CONFORMITY WITH THE APPROVED PLANS. AN ADDITIONAL LETTER OF CONCURRENCE WILL BE PROVIDED BY THE LANDSCAPE ARCHITECT INDICATING THAT THE REQUIRED LANDSCAPING IS COMPLETE AND IN SUBSTANTIAL CONFORMITY WITH THE APPROVED PLANS. AFTER RECEIVING THESE LETTERS, A FINAL INSPECTION WILL BE SCHEDULED BY THE APPROPRIATE CITY INSPECTOR.
12. AT THE FINAL INSPECTION WALK-THROUGH, THE OWNER WILL DETERMINE WHETHER THE TEMPORARY SALAMANDER EXCLUSION SCREEN AT THE AMPHITHEATER KEYWAY CAN BE REMOVED. REMOVE SCREEN WHEN DIRECTED BY OWNER.
13. AFTER A FINAL INSPECTION HAS BEEN CONDUCTED BY THE CITY INSPECTOR AND WITH APPROVAL FROM THE CITY INSPECTOR, REMOVE THE TEMPORARY EROSION AND SEDIMENTATION CONTROLS, PUMPING SYSTEM, AND COMPLETE ANY NECESSARY FINAL REVEGETATION RESULTING FROM REMOVAL OF THESE CONTROLS.

CITY OF AUSTIN – STANDARD NOTES EROSION AND SEDIMENTATION CONTROL

1. THE CONTRACTOR SHALL INSTALL EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR EXCAVATION).
2. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE ENVIRONMENTAL CRITERIA MANUAL AND THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN.
3. THE PLACEMENT OF TREE/NATURAL AREA PROTECTIVE FENCING SHALL BE IN ACCORDANCE WITH THE CITY OF AUSTIN STANDARD NOTES FOR TREE AND NATURAL AREA PROTECTION AND THE APPROVED GRADING/TREE AND NATURAL AREA PLAN.
4. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD ON-SITE WITH THE CONTRACTOR, DESIGN ENGINEER/PERMIT APPLICANT AND ENVIRONMENTAL INSPECTOR AFTER INSTALLATION OF THE EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTION MEASURES AND PRIOR TO BEGINNING ANY SITE PREPARATION WORK. THE CONTRACTOR SHALL NOTIFY THE PLANNING AND DEVELOPMENT REVIEW DEPARTMENT AT, 512-974-2278, AT LEAST THREE DAYS PRIOR TO THE MEETING DATE. THE COA-APPROVED ESC PLAN SHOULD BE REVIEWED BY COA EV INSPECTOR AT THIS TIME.
5. ANY SIGNIFICANT VARIATION IN MATERIALS OR LOCATIONS OF CONTROLS OR FENCES FROM THOSE SHOWN ON THE APPROVED PLANS MUST BE APPROVED BY THE REVIEWING ENGINEER, ENVIRONMENTAL SPECIALIST OR CITY ARBORIST AS APPROPRIATE.
6. FIELD REVISIONS TO THE EROSION AND SEDIMENTATION CONTROL PLAN MAY BE REQUIRED BY THE ENVIRONMENTAL INSPECTOR DURING THE COURSE OF CONSTRUCTION TO CORRECT CONTROL INADEQUACIES. ANY REVISIONS TO THE PERMITTED PLAN MUST BE APPROVED BY THE SITE PLAN REVIEW OFFICE OF THE PLANNING AND DEVELOPMENT REVIEW DEPARTMENT.
7. THE CONTRACTOR IS REQUIRED TO PROVIDE A CERTIFIED INSPECTOR WITH EITHER A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC), CERTIFIED EROSION, SEDIMENT AND STORMWATER-INSPECTOR (CESSWI) OR CERTIFIED INSPECTOR OF SEDIMENTATION AND EROSION CONTROLS (CISEC) CERTIFICATION TO INSPECT THE CONTROLS AND FENCES AT WEEKLY INTERVALS AND AFTER SIGNIFICANT RAINFALL EVENTS TO INSURE THAT THEY ARE FUNCTIONING PROPERLY. THE PERSON(S) RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES. SILT ACCUMULATION AT INLET DEVICES SHALL BE REMOVED WHEN THE DEPTH REACHES TWO (2) INCHES.
8. PRIOR TO FINAL ACCEPTANCE BY THE CITY, HAUL ROADS CONSTRUCTED FOR TEMPORARY CONTRACTOR ACCESS MUST BE REMOVED AND THE AREA RESTORED TO THE ORIGINAL GRADE AND REVEGETATED. ALL LAND CLEARING DEBRIS SHALL BE DISPOSED OF IN APPROVED SPOIL DISPOSAL SITES.
9. ALL WORK MUST STOP IF A VOID IN THE ROCK SUBSTRATE IS DISCOVERED WHICH IS; ONE SQUARE FOOT IN TOTAL AREA; BLOWS AIR FROM WITHIN THE SUBSTRATE AND/OR CONSISTENTLY RECEIVES WATER DURING ANY RAIN EVENT. AT THIS TIME IT IS THE RESPONSIBILITY OF THE PROJECT MANAGER TO IMMEDIATELY CONTACT A CITY OF AUSTIN ENVIRONMENTAL INSPECTOR FOR FURTHER INVESTIGATION.
10. PERMANENT EROSION/SEDIMENTATION CONTROL: ALL DISTURBED AREAS SHALL BE RESTORED IN ACCORDANCE WITH CURRENT CITY OF AUSTIN ENVIRONMENTAL CRITERIA MANUAL AND STANDARD SPECIFICATIONS, UNLESS OTHERWISE INDICATED IN THE PLAN SET AND SPECIFICATIONS.
11. DEVELOPER INFORMATION: OWNER

    COMPANY: CITY OF AUSTIN

    CONTACT: DONELLE ROBINSON

    ADDRESS: 505 BARTON SPRINGS ROAD, 11TH FLOOR, AUSTIN, TX 78704

    FAX: 512-974-2845 PHONE: 512-974-1242

    OWNER'S REPRESENTATIVE RESPONSIBLE FOR PLAN ALTERATIONS:

    COMPANY: HDR ENGINEERING, INC.

    ADDRESS: 4401 WEST GATE BLVD, SUITE 400; AUSTIN, TX 78745

    FAX: 512-912-5158 PHONE: 512-912-5100

    PERSON OR FIRM RESPONSIBLE FOR EROSION/SEDIMENTATION CONTROL COMPANY: CONTRACTOR

    PERSON OR FIRM RESPONSIBLE FOR TREE/NATURAL AREA PROTECTION COMPANY: CONTRACTOR
12. THE CONTRACTOR SHALL NOT DISPOSE OF SURPLUS EXCAVATED MATERIAL FROM THE SITE WITHOUT NOTIFYING THE PLANNING AND DEVELOPMENT REVIEW DEPARTMENT AT 974-2278 AT LEAST 48 HOURS PRIOR WITH THE LOCATION AND A COPY OF THE PERMIT ISSUED TO RECEIVE THE MATERIAL.
13. INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY PRIOR TO STREET WORK, AND WILL BE REMOVED AS SOON AS THE PLANNING AND DEVELOPMENT REVIEW DEPARTMENT ENVIRONMENTAL INSPECTOR AGREES THAT THERE IS NO POTENTIAL FOR SEDIMENTATION.
14. THE ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD AND/OR MODIFY EROSION/SEDIMENTATION CONTROLS ON SITE TO KEEP PROJECT IN COMPLIANCE WITH THE CITY OF AUSTIN RULES, REGULATIONS, AND ORDINANCES.

CITY OF AUSTIN – ADDITIONAL EROSION CONTROL NOTES FOR BARTON SPRINGS CONTRIBUTING ZONE

1. DESIGNATION OF AN ENVIRONMENTAL PROJECT MANAGER WHO IS ON SITE >90% OF THE TIME, WHO IS REQUIRED TO BE AT THE PRECONSTRUCTION AND MID-CONSTRUCTION MEETINGS, AND IS RESPONSIBLE FOR COMPLIANCE ON SITE OF THE TEMPORARY EROSION AND SEDIMENTATION CONTROLS. THE ENVIRONMENTAL PROJECT MANAGER IS RESPONSIBLE FOR ENSURING COMPLIANCE OF THE CONTROLS DURING THE CONSTRUCTION PERIOD. SHOULD THE PROJECT MANAGER NEED TO BE ABSENT FROM THE SITE FOR AN EXTENDED PERIOD (IN EXCESS OF ONE WEEK), THE ENVIRONMENTAL INSPECTOR WITH THE WATERSHED PROTECTION AND DEVELOPMENT REVIEW DEPARTMENT SHOULD BE INFORMED OF THE NAME OF A DESIGNATED REPLACEMENT.
2. THE MAXIMUM LENGTH OF TIME BETWEEN CLEARING AND FINAL REVEGETATION OF A PROJECT SHALL NOT EXCEED 18 MONTHS, UNLESS EXTENDED BY THE DIRECTOR OF THE WATERSHED PROTECTION AND DEVELOPMENT REVIEW DEPARTMENT (THIS DOES NOT AFFECT THE EXPIRATION OF THE SITE PLAN OR BUILDING PERMIT. THIS REQUIREMENT APPLIES TO SITES THAT HAVE SUSPENDED WORK AND ARE EXPERIENCING EROSION CONTROL PROBLEMS DUE TO DISTURBED SOIL CONDITIONS.) DISTURBED AREAS MUST BE MAINTAINED TO PREVENT EROSION AND SEDIMENT LOADING OF ANY WATERWAYS OR DRAINAGE FACILITIES.
3. IT IS A VIOLATION OF THE CODE AND THIS DEVELOPMENT PERMIT TO ALLOW SEDIMENT FROM A CONSTRUCTION SITE TO ENTER A CLASSIFIED WATERWAY DUE TO A FAILURE TO MAINTAIN THE REQUIRED EROSION AND SEDIMENTATION CONTROLS OR TO FOLLOW THE APPROVED CONSTRUCTION SEQUENCE.

SPECIAL NOTES TO COMPLY WITH BARTON SPRINGS SALAMANDER RECOVERY PLAN AND BARTON SPRINGS POOL HABITAT CONSERVATION PLAN (EFFECTIVE 9/13/2013)

1. COMPLIANCE WITH U.S. FISH AND WILDLIFE PERMIT REQUIRES SHOULD ANY MORTALITY OR PHYSICAL INJURY OCCUR TO AN INDIVIDUAL OF THE SPECIES DURING PERMITTED ACTIVITIES (ABOVE THE AMOUNT SPECIFIED IN THE HABITAT CONSERVATION PLAN) ALL OPERATIONS MUST IMMEDIATELY CEASE AND THE SALAMANDER BIOLOGIST ON STAFF WILL CALL THE ESFO WITHIN 24 HOURS.
2. ANY CHANGE IN WATER LEVEL IN THE AMPHITHEATER AT ELIZA SPRING, EXCEPT WITH PRIOR NOTICE TO AND APPROVED BY OWNER, WILL RESULT IN OPERATIONS CEASING UNTIL THE WATER LEVEL IS RESTORED.
3. UNPLANNED EVENTS LEADING TO TEMPORARY LOSS OF HABITAT (HAZARDOUS MATERIAL SPILLS, TEMPORARY DEWATERING) WILL IMMEDIATELY CEASE OPERATIONS SO THAT SPECIFIC PROTOCOLS IN THE HABITAT CONSERVATION PLAN CAN BE FOLLOWED.
4. CHEMICAL FERTILIZERS WILL NOT BE USED AS PER THE HABITAT CONSERVATION PLAN. ONLY SPRING WATER WILL BE USED FOR IRRIGATION AS PER THE HABITAT CONSERVATION PLAN.
5. HEAVY METALS: SOURCE INCLUDES VEHICLE WEAR.
6. FUELING AND EQUIPMENT MAINTENANCE WILL OCCUR AT LEAST 25 FEET AWAY FROM WATER TO AVOID THE CHANCE OF DETRIMENTAL IMPACTS ON THE SPRING HABITAT OR AQUATIC LIFE. ABSORBENT PADS WILL BE USED UNDERNEATH OR AROUND ALL EQUIPMENT, SUPPLIES, AND VEHICLES CONTAINING TOXIC COMPONENTS DURING ALL OPERATIONS, FUELING, AND MAINTENANCE ACTIVITIES. (BARTON SPRINGS POOL HABITAT CONSERVATION PLAN ITEM 6.1.6.2)
7. UNDER CONDITIONS WHEN DECREASED DISSOLVED OXYGEN CONCENTRATIONS MAY BE HARMFUL TO SALAMANDERS, THE CITY MAY SUPPLEMENT DISSOLVED OXYGEN IN ELIZA SPRINGS USING AIR PUMPS, WATER RECIRCULATION, OR OTHER METHOD APPROVED BY THE US FISH AND WILDLIFE SERVICE. (BARTON SPRINGS POOL HABITAT CONSERVATION PLAN ITEM 6.2.4)

CITY OF AUSTIN – STANDARD NOTES FOR TREE AND NATURAL AREA PROTECTION

1. ALL TREES AND NATURAL AREAS SHOWN ON PLAN TO BE PRESERVED SHALL BE PROTECTED DURING CONSTRUCTION WITH TEMPORARY FENCING.
2. PROTECTIVE FENCES SHALL BE ERECTED ACCORDING TO CITY OF AUSTIN STANDARDS FOR TREE PROTECTION.
3. PROTECTIVE FENCES SHALL BE INSTALLED PRIOR TO THE START OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR GRADING), AND SHALL BE MAINTAINED THROUGHOUT ALL PHASES OF THE CONSTRUCTION PROJECT.
4. EROSION AND SEDIMENTATION CONTROL BARRIERS SHALL BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILD-UP WITHIN TREE DRIP LINES.
5. PROTECTIVE FENCES SHALL SURROUND THE TREES OR GROUP OF TREES, AND WILL BE LOCATED AT THE OUTERMOST LIMIT OF BRANCHES (DRIP LINE) , FOR NATURAL AREAS, PROTECTIVE FENCES SHALL FOLLOW THE LIMIT OF CONSTRUCTION LINE, IN ORDER TO PREVENT THE FOLLOWING:
   A. SOIL COMPACTION IN THE ROOT ZONE AREA RESULTING FROM VEHICULAR TRAFFIC OR STORAGE OF EQUIPMENT OR MATERIALS;
   B. ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN 6 INCHES CUT OR FILL), OR TRENCHING NOT REVIEWED AND AUTHORIZED BY THE CITY ARBORIST;
   C. WOUNDS TO EXPOSED ROOTS, TRUNK OR LIMBS BY MECHANICAL EQUIPMENT;
   D. OTHER ACTIVITIES DETRIMENTAL TO TREES SUCH AS CHEMICAL STORAGE, CEMENT TRUCK CLEANING, AND FIRES.
6. EXCEPTIONS TO INSTALLING FENCES AT TREE DRIP LINES MAY BE PERMITTED IN THE FOLLOWING CASES:
   A. WHERE THERE IS TO BE AN APPROVED GRADE CHANGE, IMPERMEABLE PAVING SURFACE, TREE WELL, OR OTHER SUCH SITE DEVELOPMENT, ERECT THE FENCE APPROXIMATELY 2 TO 4 FEET BEYOND THE AREA DISTURBED;
   B. WHERE PERMEABLE PAVING IS TO BE INSTALLED WITHIN A TREE'S DRIP LINE, ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA (PRIOR TO SITE GRADING SO THAT THIS AREA IS GRADED SEPARATELY PRIOR TO PAVING INSTALLATION TO MINIMIZED ROOT DAMAGE);
   C. WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE TO ALLOW 6 TO 10 FEET OF WORK SPACE BETWEEN THE FENCE AND THE BUILDING;
   D. WHERE THERE ARE SEVERE SPACE CONSTRAINTS DUE TO TRACT SIZE, OR OTHER SPECIAL REQUIREMENTS, CONTACT THE CITY ARBORIST AT 512-974-1876 TO DISCUSS ALTERNATIVES.
   E. SPECIAL NOTE: FOR THE PROTECTION OF NATURAL AREAS, NO EXCEPTIONS TO INSTALLING FENCES AT THE LIMIT OF CONSTRUCTION LINE WILL BE PERMITTED.
7. WHERE ANY OF THE ABOVE EXCEPTIONS RESULT IN A FENCE BEING CLOSER THAN 4 FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLANKING TO A HEIGHT OF 8 FT (OR TO THE LIMITS OF LOWER BRANCHING) IN ADDITION TO THE REDUCED FENCING PROVIDED.
8. TREES APPROVED FOR REMOVAL SHALL BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.
9. ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOP SOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN 2 DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
10. ANY TRENCHING REQUIRED FOR THE INSTALLATION OF LANDSCAPE IRRIGATION SHALL BE PLACED AS FAR FROM EXISTING TREE TRUNKS AS POSSIBLE.
11. NO LANDSCAPE TOPSOIL DRESSING GREATER THAN 4 INCHES SHALL BE PERMITTED WITHIN THE DRIP LINE OF TREES. NO SOIL IS PERMITTED ON THE ROOT FLARE OF ANY TREE.
12. PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC AND EQUIPMENT SHALL TAKE PLACE BEFORE DAMAGE OCCURS (RIPPING OF BRANCHES, ETC.).
13. ALL FINISHED PRUNING SHALL BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY (REFERENCE THE NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES AVAILABLE ON REQUEST FROM THE CITY ARBORIST).
14. ALL GRADING WITHIN PROTECTED ROOT ZONE AREAS SHALL BE DONE BY HAND OR WITH SMALL EQUIPMENT TO MINIMIZE ROOT DAMAGE. PRIOR TO GRADING, RELOCATE PROTECTION FENCES TO 2 FEET BEHIND THE GRADE CHANGE AREA.
15. TREES IMPACTED BY CONSTRUCTION ACTIVITIES SHALL BE WATERED DEEPLY ONCE A WEEK DURING PERIODS OF HOT OR DRY WEATHER. TREE CROWNS WILL BE SPRAYED WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON THE LEAVES.
16. NO LANDSCAPE TOPSOIL DRESSING GREATER THAN 4 INCHES SHALL BE PERMITTED WITHIN THE DRIPLINE OF TREES. NO SOIL IS PERMITTED ON THE ROOT FLARE OF ANY TREE.
17. PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC AND EQUIPMENT SHALL TAKE PLACE BEFORE CONSTRUCTION BEGINS.
18. ALL PRUNING MUST BE DONE ACCORDING TO RECOGNIZED, APPROVED INDUSTRY STANDARDS. REFERENCE THE NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES.
19. TREES APPROVED FOR REMOVAL SHALL BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.
20. DEVIATIONS FROM THE ABOVE NOTES MAY BE CONSIDERED ORDINANCE VIOLATIONS IF THERE IS SUBSTANTIAL NON-COMPLIANCE OR IF A TREE SUSTAINS DAMAGE AS A RESULT.

SUPPLEMENTAL TREE PROTECTION NOTES

1. ALL TREE PROTECTION MUST COMPLY WITH CITY OF AUSTIN REQUIREMENTS AS OUTLINED IN THE ENVIRONMENTAL CRITERIA MANUAL AND AS INDICATED BY STANDARD COA NOTES AND DETAILS INCLUDED WITHIN THIS DOCUMENT SET. CONTRACTOR SHALL INSTALL PROTECTION PRIOR TO PRE-CONSTRUCTION CONFERENCE, MAKE ADJUSTMENTS TO PROTECTION AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR, AND MAINTAIN PROTECTION UNTIL PROJECT IS COMPLETE.
2. TYPE AND LOCATION OF ALL TREE PROTECTION MUST BE APPROVED IN THE FIELD BY THE ENVIRONMENTAL INSPECTOR PRIOR TO CONSTRUCTION.
3. WALK-THROUGH: CONTRACTOR SHALL CONDUCT WALK-THROUGH MEETING WITH THE ENVIRONMENTAL INSPECTOR PRIOR TO PERFORMING ANY PRUNING ACTIVITIES ON TREES IN PROJECT AREA. PURPOSE OF WALK-THROUGH WILL BE TWOFOLD. ONE PURPOSE WILL BE TO DETERMINE THE MINIMUM AMOUNT OF PRUNING NECESSARY TO ALLOW CONSTRUCTION WORK TO BE COMPLETED. SECOND PURPOSE WILL BE TO DETERMINE AREAS OF PROJECT IN WHICH EXHAUST DIVERTERS WILL BE REQUIRED ON CONSTRUCTION EQUIPMENT TO PREVENT SCORCHING OF EXISTING TREES.
4. ALL PRUNING MUST BE PERFORMED IN ACCORDANCE WITH ANSI A300 (PART 1) – 2001 AMERICAN NATIONAL STANDARD FOR TREE CARE OPERATIONS (PRUNING) OR LATEST APPROVED VERSION. THIS DOCUMENT MAY BE OBTAINED ONLINE FOR A FEE AT WWW.ANSI.ORG.
5. PRUNING SHALL BE DONE WITH CLEAN, SHARP TOOLS. TO PREVENT BARK TEARS, THE WEIGHT OF THE BRANCH SHALL BE REMOVED BEFORE MAKING FINAL PRUNING CUT.
6. ALL PRUNING SHALL PRESERVE THE NATURAL CHARACTER OF THE TREE.
7. ONLY COLLAR CUTS ARE ACCEPTABLE. NO FLUSH CUTS OR STUB CUTS WILL BE ALLOWED.
8. ALL BRANCHES BROKEN OR DAMAGED DURING CONSTRUCTION SHALL BE REMOVED.
9. PRUNING CUTS OR DAMAGED AREAS ON AN OAK TREE SHALL BE PAINTED WITHIN FIVE MINUTES WITH A STANDARD TREE WOUND DRESSING. TREE WOUND DRESSING SHALL BE EITHER TREEKOTE AEROSOL OR TANGLEFOOD PRUNING SEALER OR APPROVED EQUAL. THIS REQUIREMENT APPLIES TO WOUND CREATED BY CONSTRUCTION VEHICLES OR EQUIPMENT.
10. ANY TREE ROOTS THAT ARE EXPOSED, CUT, OR TORN DURING CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SURROUNDING SOIL. (REFER ALSO TO NUMBER 9 OF THE TREE AND NATURAL AREA PROTECTION NOTES INCLUDED IN THIS PLAN SET.)
11. ALL TRENCHING WITHIN THE CRITICAL ROOT ZONE OF A TREE TO BE PRESERVED WILL BE SAW CUT.

REMEDIAL TREE CARE NOTES AERATION AND SUPPLEMENTAL NUTRIENT REQUIREMENTS FOR TREES WITHIN CONSTRUCTION AREAS

1. AS A COMPONENT OF AN EFFECTIVE REMEDIAL TREE CARE PROGRAM PER ENVIRONMENTAL CRITERIA MANUAL SECTION 3.5.4, PRESERVED TREES WITHIN THE LIMITS OF CONSTRUCTION MAY REQUIRE SOIL AERATION AND SUPPLEMENTAL NUTRIENTS. SOIL AND/OR FOLIAR ANALYSIS SHOULD BE USED TO DETERMINE THE NEED FOR SUPPLEMENTAL NUTRIENTS. THE CITY ARBORIST MAY REQUIRE THESE ANALYSES AS PART OF A COMPREHENSIVE TREE CARE PLAN. SOIL PH SHALL BE CONSIDERED WHEN DETERMINING THE FERTILIZATION COMPOSITION AS SOIL PH INFLUENCES THE TREE'S ABILITY TO UPTAKE NUTRIENTS FROM THE SOIL. IF ANALYSES INDICATE THE NEED FOR SUPPLEMENTAL NUTRIENTS, THEN HUMATE/NUTRIENT SOLUTIONS WITH MYCORRHIZAE COMPONENTS ARE HIGHLY RECOMMENDED. IN ADDITION, SOIL ANALYSIS MAY BE NEEDED TO DETERMINE IF ORGANIC MATERIAL OR BENEFICIAL MICROORGANISMS ARE NEEDED TO IMPROVE SOIL HEALTH. MATERIALS AND METHODS ARE TO BE APPROVED BY THE CITY ARBORIST (512-974-1876) PRIOR TO APPLICATION. THE OWNER OR GENERAL CONTRACTOR SHALL SELECT A FERTILIZATION CONTRACTOR AND ENSURE COORDINATION WITH THE CITY ARBORIST.
2. PRE-CONSTRUCTION TREATMENT SHOULD BE APPLIED IN THE APPROPRIATE SEASON, IDEALLY THE SEASON PRECEDING THE PROPOSED CONSTRUCTION. MINIMALLY, AREAS TO BE TREATED INCLUDE THE ENTIRE CRITICAL ROOT ZONE OF TREES AS DEPICTED ON THE CITY APPROVED PLANS. TREATMENT SHOULD INCLUDE, BUT NOT LIMITED TO, FERTILIZATION, SOIL TREATMENT, MULCHING, AND PROPER PRUNING.
3. POST-CONSTRUCTION TREATMENT SHOULD OCCUR DURING FINAL REVEGETATION OR AS DETERMINED BY A QUALIFIED ARBORIST AFTER CONSTRUCTION. CONSTRUCTION ACTIVITIES OFTEN RESULT IN A REDUCTION IN SOIL MACRO AND MICRO PORES AND AN INCREASE IN SOIL BULK DENSITY. TO AMELIORATE THE DEGRADED SOIL CONDITIONS, AERATION VIA WATER AND/OR AIR INJECTED INTO THE SOIL IS NEEDED OR BY OTHER METHODS AS APPROVED BY THE CITY ARBORIST. THE PROPOSED NUTRIENT MIX SPECIFICATIONS AND SOIL AND/OR FOLIAR ANALYSIS RESULTS NEED TO BE PROVIDED TO AND APPROVED BY THE CITY ARBORIST PRIOR TO APPLICATION (FAX # 512-974-3010). CONSTRUCTION WHICH WILL BE COMPLETED IN LESS THAN 90 DAYS MAY USE MATERIALS AT ½ RECOMMENDED RATES. ALTERNATIVE ORGANIC FERTILIZER MATERIALS ARE ACCEPTABLE WHEN APPROVED BY THE CITY ARBORIST. WITHIN 7 DAYS AFTER FERTILIZATION IS PERFORMED,
4. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION OF THE WORK PERFORMED TO THE CITY ARBORIST, PLANNING AND DEVELOPMENT REVIEW DEPARTMENT. P.O. BOX 1088, AUSTIN, TX 78767. THIS NOTE SHOULD BE REFERENCED AS ITEM #1 IN THE SEQUENCE OF CONSTRUCTION.

D | C | B | A

Texas P.E. Firm
Registration No. F-754

ISSUE	DATE	DESCRIPTION
C	07/24/2015	90% DRAFT FOR REVIEW
B	10/3/2014	90% DRAFT FOR REVIEW
A	1/24/2014	60% DRAFT FOR REVIEW

PROJECT MANAGER	S. MUCHARD
DESIGNED BY	L. ROSS
DRAWN BY	C. AMARAL
CHECKED BY	C. PARKER
DATE	OCTOBER 2014
PROJECT NUMBER	220162

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF SCOTT M. MUCHARD TEXAS P.E. NO.89409 DATE: JULY 24, 2015
IT IS NOT TO BE USED FOR CONSTRUCTION OR ANY OTHER PURPOSE.

90% DRAFT

CITY OF AUSTIN FOUNDED 1839

ELIZA SPRING OUTLET DAYLIGHTING

Austin, Texas

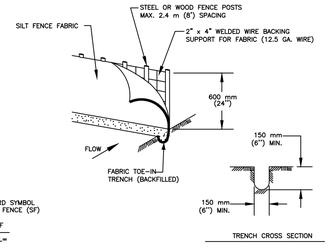
EROSION/SEDIMENTATION CONTROL AND TREE PROTECTION PLAN NOTES

0 1" 2"

FILENAME C1.2.DWG

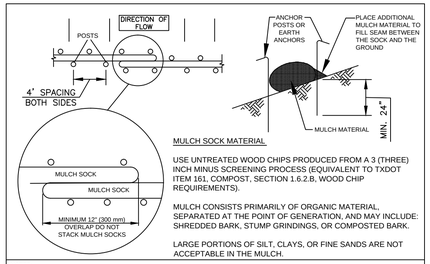
SCALE NONE

SHEET **C1.2**



1. STEEL OR WOOD POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 300 mm (12 INCHES). IF WOOD POSTS CANNOT ACHIEVE 300 mm (12 inches) DEPTH, USE STEEL POSTS.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW.
3. THE TRENCH MUST BE A MINIMUM OF 150 mm (6 inches) DEEP AND 150 mm (6 inches) WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE FABRIC SHOULD BE SECURELY FASTENED TO EACH STEEL OR WOOD SUPPORT POST OR TO WOVEN WIRE , WHICH IS IN TURN ATTACHED TO THE STEEL OR WOOD FENCE POST.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150 mm (6 inches). THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	SILT FENCE	
RECORD COPY SIGNED BY MORGAN BYARS 09/01/2011 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 642S-1



MULCH SOCK MATERIAL

USE UNTREATED WOOD CHIPS PRODUCED FROM A 3 (THREE) INCH MINUS SCREENING PROCESS (EQUIVALENT TO TXDOT ITEM 161, COMPOST, SECTION 1.6.2.B, WOOD CHIP REQUIREMENTS).

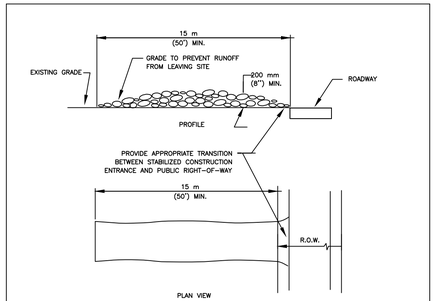
MULCH CONSISTS PRIMARILY OF ORGANIC MATERIAL, SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE: SHREDDED BARK, STUMP GRINDINGS, OR COMPOSTED BARK.

LARGE PORTIONS OF SILT, CLAYS, OR FINE SANDS ARE NOT ACCEPTABLE IN THE MULCH.

NOTES:

1. STEEL OR WOOD POSTS WHICH SUPPORT THE MULCH SOCK SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 600mm (24 inches). IF WOOD POSTS CANNOT ACHIEVE 600mm (24 inches) DEPTH, USE STEEL POSTS. EARTH ANCHORS ARE ALSO ACCEPTABLE.
2. THE TOE OF THE MULCH SOCK SHALL BE PLACED SO THAT THE MULCH SOCK IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. IN ORDER TO PREVENT WATER FROM FLOWING BETWEEN THE JOINTS OF ADJACENT ENDS OFMULCH SOCKS, LAP THE ENDS OF ADJACENT MULCH SOCKS A MINIMUM OF 300mm (12 inches).
3. MULCH MATERIAL MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH; IT IS NOT ACCEPTABLE FOR THE MULCH MATERIAL TO CONTAIN GROUND CONSTRUCTION DEBRIS, BIOSOLIDS, OR MANURE.
4. SOCK MATERIAL WILL BE 100% BIODEGRADABLE, PHOTODEGRADABLE, OR RECYCLABLE SUCH AS BURLAP, TWINE, UV PHOTOBIODEGRADABLE PLASTIC, POLYESTER, OR ANY OTHER ACCEPTABLE MATERIAL.
5. MULCH SOCKS SHOULD BE USED AT THE BASE OF SLOPES NO STEEPER THAN 2:1 AND SHOULD NOT EXCEED THE MAXIMUM SPACING CRITERIA PROVIDED IN CITY OF AUSTIN ENVIRONMENTAL CRITERIA MANUAL TABLE 1.4.5.F.1 FOR A GIVEN SLOPE CATEGORY.
6. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150mm (6 inches). THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

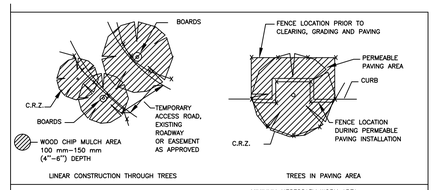
CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	MULCH SOCK	
RECORD COPY SIGNED BY MORGAN BYARS 08/24/2010 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 648S-1

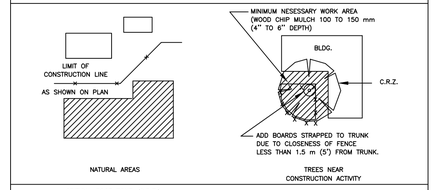


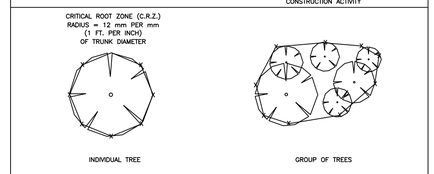
NOTES:

1. STONE SIZE: 75–125 mm (3–5") OPEN GRADED ROCK.
2. LENGTH: AS EFFECTIVE BUT NOT LESS THAN 15 m (50').
3. THICKNESS: NOT LESS THAN 200 mm (8").
4. WIDTH: NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS/EGRESS.
5. WASHING: WHEN NECESSARY, VEHICLE WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE AND DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.
6. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AS WELL AS REPAIR AND CLEAN OUT OF ANY MEASURE DEVICES USED TO TRAP SEDIMENT. ALL SEDIMENTS THAT IS SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
7. DRAINAGE: ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

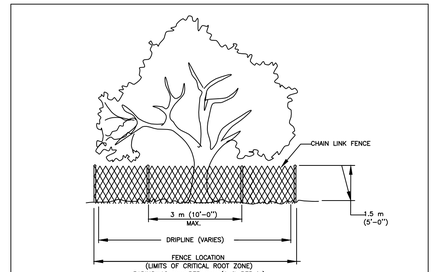
CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	STABILIZED CONSTRUCTION ENTRANCE	
RECORD COPY SIGNED BY J. PATRICK MURPHY 5/23/00 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 641S-1

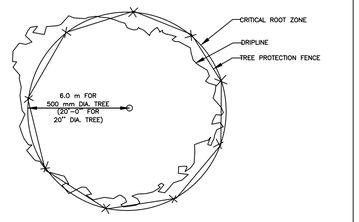






CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	TREE PROTECTION FENCE LOCATIONS	
RECORD COPY SIGNED BY J. PATRICK MURPHY 11/15/99 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S-1





CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	TREE PROPTECTION FENCE TYPE A – CHAIN LINK	
RECORD COPY SIGNED BY J. PATRICK MURPHY 11/15/99 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S-2

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Texas P.E. Firm
Registration No. F-754

ISSUE	DATE	DESCRIPTION
C	07/24/2015	90% DRAFT FOR REVIEW
B	10/3/2014	90% DRAFT FOR REVIEW
A	1/24/2014	60% DRAFT FOR REVIEW

PROJECT MANAGER	S. MUCHARD
DESIGNED BY	L. ROSS
DRAWN BY	C. AMARAL
CHECKED BY	C. PARKER
DATE	OCTOBER 2014
PROJECT NUMBER	220162

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF D. LAUREN ROSS TEXAS P.E. NO.56647 DATE: JULY 24, 2015
IT IS NOT TO BE USED FOR CONSTRUCTION OR ANY OTHER PURPOSE.
90% DRAFT

ELIZA SPRING OUTLET DAYLIGHTING

Austin, Texas

EROSION/SEDIMENTATION CONTROL STANDARD DETAILS

0 1" 2"

FILENAME C1.3.DWG
SCALE NONE

SHEET **C1.3**

GENERAL:

1. ALL CARE OF WATER ACTIVITIES AND ELEMENTS SHALL BE PAID UNDER PAY ITEM SS130300.
2. CONTRACTOR SHALL COMPLY WITH CITY OF AUSTIN'S 10A1B PERMIT AND U.S. FISH AND WILDLIFE PERMIT WHEN CARRYING OUT THE CONSTRUCTION WORK, UNLESS OTHERWISE APPROVED BY OWNER.
3. CONTRACTOR WILL STOP WORK IF DETRIMENTAL IMPACTS OR THE POTENTIAL FOR DETRIMENTAL IMPACTS TO PROTECTED SPECIES OR THEIR SURFACE OR SUBTERRANEAN HABITAT ARE DISCOVERED BY CONTRACTOR, OWNER, INSPECTOR, OR ENGINEER.
4. HAZARDOUS MATERIALS AND PETROLEUM PRODUCTS ARE NOT PERMITTED WITHIN THE AMPHITHEATER. FUELING CANNOT OCCUR WITHIN 25 FT OF THE AMPHITHEATER OR BARTON SPRINGS POOL.
5. ALL PUMPS SHALL BE ELECTRIC UNLESS REQUIRED FLOW RATES AND WATER LEVELS CANNOT BE MAINTAINED THROUGH USE OF ELECTRIC PUMPS AND OWNER APPROVES USE OF ALTERNATIVE PUMPS.
6. PUMPS SHALL NOT BE PLACED WITHIN THE AMPHITHEATER OR WITHIN ENDANGERED SPECIES HABITAT.
7. EQUIPMENT USED WITHIN THE AMPHITHEATER SHALL BE HAND OR ELECTRIC POWERED.
8. CONTRACTOR SHALL ESTABLISH TEMPORARY ELECTRICAL SERVICE AT SITE THROUGH AUSTIN ENERGY AT CONTRACTOR'S EXPENSE. ONSITE POWER GENERATION SHALL NOT BE ALLOWED DUE TO THE POTENTIAL FOR ONGOING FUME GENERATION.
9. CONTRACTOR SHALL NOT DISCHARGE WATER TO THE AMPHITHEATER OR BARTON SPRINGS POOL.
10. COFFERDAMS AND ASSOCIATED DEWATERING PUMPS SHALL PROVIDE DRY, SUITABLE WORKING CONDITIONS.
11. CONTRACTOR MAY DEWATER AREA ENCLOSED BY COFFERDAMS WITHIN BYPASS TUNNEL BY PUMPING TO WET SIDE OF COFFERDAM PROVIDED WATER FROM CONSTRUCTION SITE HAS NOT ENTERED AREA ENCLOSED BY COFFERDAM.
12. CONTRACTOR SHALL ALLOW SUSPENDED PARTICLES TO SETTLE OUT OF WATER COLUMN BEFORE DISASSEMBLING OR RESUMING DISASSEMBLY OF ANY COFFERDAM OR DEWATERING SYSTEM.
13. THE EXPECTED RANGE OF ELIZA SPRING FLOW RATES IS APPROXIMATELY 1 TO 14 CFS. THE OCCURRENCE OF SPRING FLOW RATES OUTSIDE THIS RANGE SHALL NOT BE CAUSE FOR ADDITIONAL PAYMENT.
14. CITY OF AUSTIN BIOLOGIST WILL ESTABLISH MINIMUM AND MAXIMUM ALLOWABLE WATER LEVELS IN ELIZA SPRING AMPHITHEATER.
15. CONTRACTOR SHALL PROVIDE MEANS TO MONITOR AMPHITHEATER WATER LEVELS REMOTELY. MONITORING SYSTEM SHALL SEND ALARMS TO CONTRACTOR AND CITY OF AUSTIN BIOLOGIST IF WATER LEVELS DROP BELOW OR EXCEED ALLOWABLE RANGE. CONTRACTOR SHALL BE RESPONSIBLE FOR MONITORING AMPHITHEATER WATER LEVELS AT ALL TIMES DURING CONSTRUCTION, REGARDLESS OF WHETHER CONSTRUCTION ACTIVITIES ARE OCCURRING AT THE SITE, AND NOTIFY CITY OF AUSTIN BIOLOGIST IMMEDIATELY IF WATER LEVELS DROP BELOW OR EXCEED ALLOWABLE RANGE.
16. CONTRACTOR SHALL BE READY AT ALL TIMES DURING CONSTRUCTION, REGARDLESS OF WHETHER CONSTRUCTION ACTIVITIES ARE OCCURRING AT THE SITE, TO IMPLEMENT IMMEDIATE ACTIONS TO RESTORE WATER LEVELS IN AMPHITHEATER SHOULD SUDDEN AND/OR UNANTICIPATED EVENTS CAUSE AMPHITHEATER WATER LEVELS TO DROP BELOW MINIMUM ALLOWABLE LEVEL. CONTRACTOR SHALL DEVELOP PLAN FOR EMERGENCY WATER LEVEL RESTORATION AND SUBMIT PLAN TO OWNER FOR APPROVAL.
17. ALL WATER DISCHARGED FROM EXCAVATED AREAS SHALL MEET DISCHARGE STANDARDS LISTED IN SS130300.

TEMPORARY GRAVITY-FED SPRING FLOW DIVERSION:

1. TEMPORARY GRAVITY-FED SPRING FLOW DIVERSION SHALL BE CAPABLE OF CONVEYING ELIZA SPRING FLOW WHILE MAINTAINING AMPHITHEATER WATER LEVELS WITHIN THE ALLOWABLE RANGE ESTABLISHED BY CITY OF AUSTIN BIOLOGIST.
2. CONTRACTOR SHALL PROVIDE, AT NO ADDITIONAL COST TO OWNER, MEANS OF RESTRICTING DIVERSION FLOW RATE IF NECESSARY TO ACHIEVE MINIMUM ALLOWABLE AMPHITHEATER WATER LEVEL. MEANS OF RESTRICTING FLOW RATE SHALL BE APPROVED BY OWNER.
3. CONTRACTOR SHALL PROVIDE, AT NO ADDITIONAL COST TO OWNER, SUPPLEMENTAL PUMPING FOR AMPHITHEATER TO PREVENT AMPHITHEATER WATER LEVELS FROM EXCEEDING MAXIMUM ALLOWABLE WATER LEVEL IF GRAVITY DIVERSION FAILS TO MAINTAIN MAXIMUM ALLOWABLE LEVELS. LOCATION OF INTAKE FOR SUPPLEMENTAL PUMPING SHALL BE APPROVED BY OWNER.
4. TEMPORARY GRAVITY-FED SPRING FLOW DIVERSION PIPE TO STORM DRAIN LINE B JUNCTION BOX SHALL BE PROTECTED TO PREVENT DAMAGE TO PIPE FROM VEHICLE AND EQUIPMENT TRAFFIC BY PROVIDING ADEQUATE COVER OR PLATING.
5. IF TEMPORARY GRAVITY-FED SPRING FLOW DIVERSION INCREASES SUSPENDED SOLIDS OR DECREASES DISSOLVED OXYGEN FROM AMBIENT LEVELS, TREATMENT OF DIVERTED WATER SHALL BE NECESSARY PRIOR TO DISCHARGE.
6. IF USING TEMPORARY GRAVITY-FED SPRINGS FLOW DIVERSION PIPE OF DIAMETER GREATER THAN 24 INCHES, INCREASE SIZE OF JUNCTION BOX B1 AS NECESSARY AT NO ADDITIONAL COST TO OWNER.
7. UPON REMOVAL OF TEMPORARY GRAVITY-FED SPRING FLOW DIVERSION, CUT DIVERSION PIPE AT JUNCTION BOX B1 AND FILL PIPE END IN JUNCTION BOX WITH CLSM STANDARD SPEC 402S.

AMPHITHEATER KEYWAY DEWATERING:

1. CITY OF AUSTIN BIOLOGIST MUST BE PRESENT DURING AMPHITHEATER KEYWAY DEWATERING TO IDENTIFY AND RELOCATE STRANDED SALAMANDERS, AND MUST RECEIVE NOTICE 48 HOURS IN ADVANCE OF INITIATION OF DEWATERING ACTIVITIES.
2. CONTRACTOR SHALL MINIMIZE DURATION OF KEYWAY DEWATERING.
3. CONTRACTOR SHALL MINIMIZE EXTENT OF DEWATERED AREA AND SHALL NOT ALLOW DEWATERED PORTION OF AMPHITHEATER TO EXTEND MORE THAN 3 FT FROM THE ENTRANCE TO THE EXISTING OUTFALL PIPE.
4. AMPHITHEATER KEYWAY DEWATERING PUMP SHALL OPERATE IN CONJUNCTION WITH A WATER LEVEL SENSOR INSIDE THE ELIZA SPRING AMPHITHEATER. THE PUMP SHALL ACTIVATE WHEN THE WATER LEVEL IN THE AMPHITHEATER EXCEEDS THE MAXIMUM ALLOWABLE LEVEL ESTABLISHED BY CITY OF AUSTIN BIOLOGIST AND WILL STOP WHEN THE WATER LEVEL IN THE AMPHITHEATER REACHES THE MINIMUM ALLOWABLE LEVEL ESTABLISHED BY CITY OF AUSTIN BIOLOGIST.
5. CONTRACTOR SHALL ADJUST PUMP CAPACITY, INCLUDING PROVIDING ADDITIONAL CAPACITY, AS REQUIRED TO MAINTAIN AMPHITHEATER WATER LEVELS WITHIN ALLOWABLE RANGE AT NO ADDITIONAL COST TO OWNER.
6. IF AMPHITHEATER KEYWAY DEWATERING INCREASES SUSPENDED SOLIDS OR DECREASES DISSOLVED OXYGEN FROM AMBIENT LEVELS, TREATMENT OF DIVERTED WATER SHALL BE NECESSARY PRIOR TO DISCHARGE.
7. REFER TO SPECIFICATION SS130300 FOR PUMP INTAKE REQUIREMENTS.

EXCAVATION DEWATERING:

1. CONTRACTOR SHALL PROVIDE AN EXCAVATION DEWATERING SYSTEM THAT MEETS THE PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA OF SPECIFICATION SS130300. THE SYSTEM SHALL INCLUDE WATER FILTRATION AND/OR TREATMENT TO MEET PERFORMANCE REQUIREMENTS. CONTRACTOR SHALL DESIGN EXCAVATION DEWATERING SYSTEM AND SUBMIT PLAN TO OWNER FOR APPROVAL. DEWATERING SYSTEM POINT OF DISCHARGE FOR FILTERED AND/OR TREATED WATER SHALL BE APPROVED BY OWNER AND LOCATED WITHIN THE LIMITS OF CONSTRUCTION. POTENTIALLY ACCEPTABLE POINTS OF DISCHARGE INCLUDE MANHOLES IN STORM DRAIN LINE A, STORM DRAIN LINE B OR JUNCTION BOX WHEN THESE PROJECT COMPONENTS ARE COMPLETE.
2. CONTRACTOR SHALL NOT ALLOW UNTREATED WATER FROM EXCAVATED AREAS TO ENTER THE AMPHITHEATER, BARTON SPRINGS POOL, BYPASS TUNNEL, OR BARTON CREEK.
3. CONTRACTOR SHALL NOT ALLOW EXCAVATION DEWATERING TO CAUSE AMPHITHEATER LEVEL TO DROP BELOW MINIMUM LEVEL ESTABLISHED BY CITY OF AUSTIN BIOLOGIST.

C:\pwworking\dal\d0473928\C1.4.dwg

HDR
Texas P.E. Firm
Registration No. F-754

ISSUE	DATE	DESCRIPTION
C	07/24/2015	90% DRAFT FOR REVIEW
B	10/3/2014	90% DRAFT FOR REVIEW
A	1/24/2014	60% DRAFT FOR REVIEW

PROJECT MANAGER	S. MUCHARD
DESIGNED BY	S. MUCHARD
DRAWN BY	J. FELAN
CHECKED BY	C. PARKER
DATE	JULY 2015
PROJECT NUMBER	220162

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90% DRAFT

CITY OF AUSTIN FOUNDED 1839

ELIZA SPRING OUTLET DAYLIGHTING

Austin, Texas

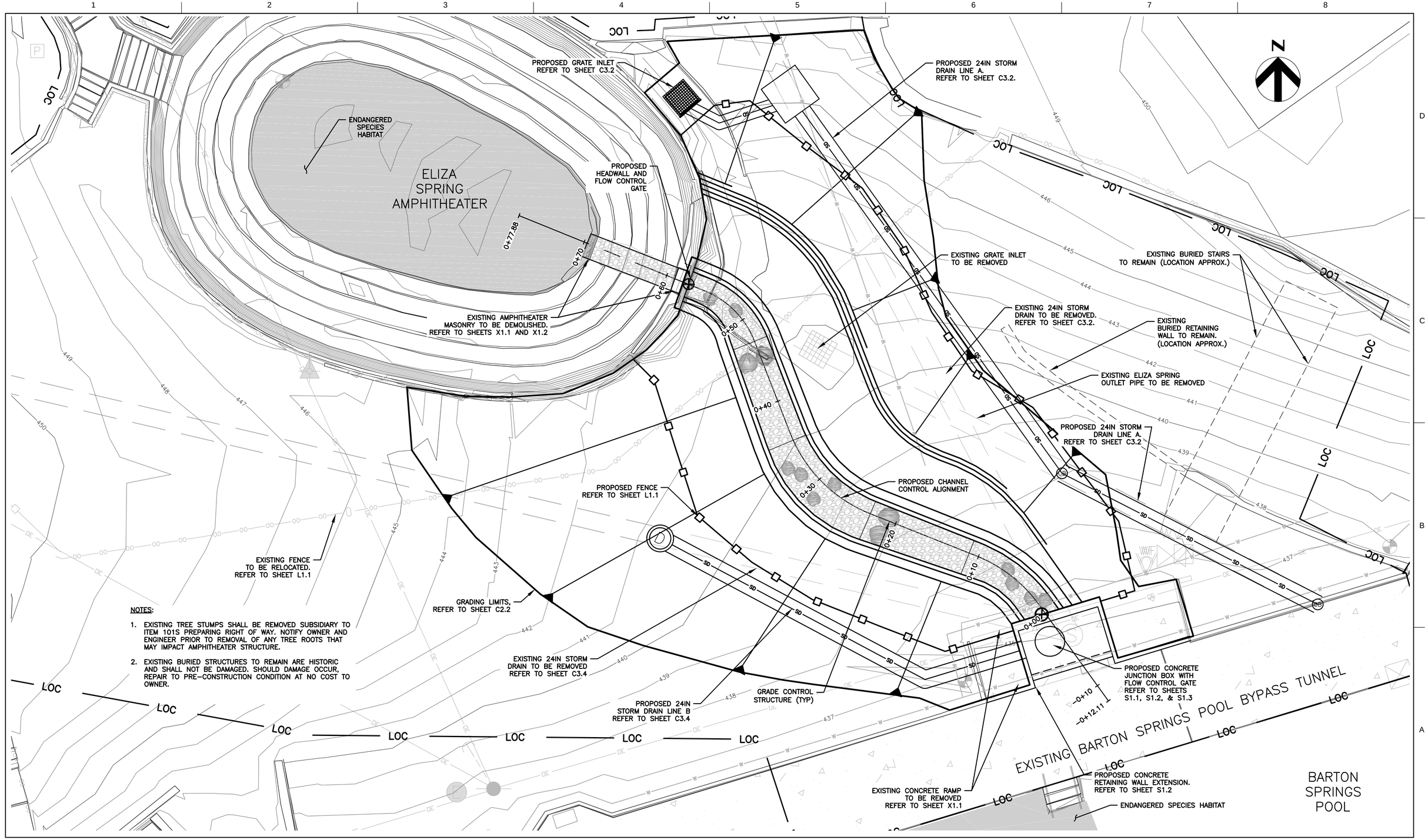
CARE OF WATER PLAN AND NOTES

0 1" 2"

FILENAME C1.4.DWG

SCALE 1"=5'

SHEET C1.4



NOTES:

1. EXISTING TREE STUMPS SHALL BE REMOVED SUBSIDIARY TO ITEM 101S PREPARING RIGHT OF WAY. NOTIFY OWNER AND ENGINEER PRIOR TO REMOVAL OF ANY TREE ROOTS THAT MAY IMPACT AMPHITHEATER STRUCTURE.
2. EXISTING BURIED STRUCTURES TO REMAIN ARE HISTORIC AND SHALL NOT BE DAMAGED. SHOULD DAMAGE OCCUR, REPAIR TO PRE-CONSTRUCTION CONDITION AT NO COST TO OWNER.

ISSUE	DATE	DESCRIPTION
C	07/24/2015	90% DRAFT FOR REVIEW
B	10/3/2014	90% DRAFT FOR REVIEW
A	1/24/2014	60% DRAFT FOR REVIEW

PROJECT MANAGER	S. MUCHARD
DESIGNED BY	S. MUCHARD
DRAWN BY	C. AMARAL
CHECKED BY	C. PARKER
DATE	OCTOBER 2014
PROJECT NUMBER	220162

Texas P.E. Firm
Registration No. F-754

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CITY OF AUSTIN FOUNDED 1839

ELIZA SPRING OUTLET DAYLIGHTING

Austin, Texas

GENERAL PROJECT LAYOUT

0 1" 2"

FILENAME C2.1.DWG

SCALE 1"=5'

SHEET C2.1

C:\pwworking\dall\d0473928\C2.1.dwg

ELIZA SPRING AMPHITHEATER

ENDANGERED SPECIES HABITAT

SEE DETAIL AREA, THIS SHEET

PROPOSED GRADING TO TERMINATE AT EXISTING WALLS AND MATCH EXISTING TOE

DEMOLISH AND REMOVE EXISTING MORTARED STONE FLUME BELOW PROPOSED SAWCUT. SUBSIDIARY TO PREP ROW.

PROPOSED BENCH

PROPOSED RIGHT BENCH TOE ALIGNMENT

PROPOSED BENCH

PROPOSED LEFT CHANNEL TOE ALIGNMENT

PROPOSED CHANNEL CONTROL ALIGNMENT SEE PROFILE, REFER TO SHEET C2.4

TRANSITION PROPOSED GRADING TO MATCH EXISTING GRADE AT AMPHITHEATER WALL

EXISTING BURIED STAIRS TO REMAIN (LOCATION APPROX.)

EXISTING BURIED RETAINING WALL TO REMAIN. (LOCATION APPROX.)

EXISTING BARTON SPRINGS POOL BYPASS TUNNEL

BARTON SPRINGS POOL

ENDANGERED SPECIES HABITAT

LOC

3.00:1

-3.00:1

0+77.88

0+10

0+60

0+50

0+40

0+30

0+20

0+10

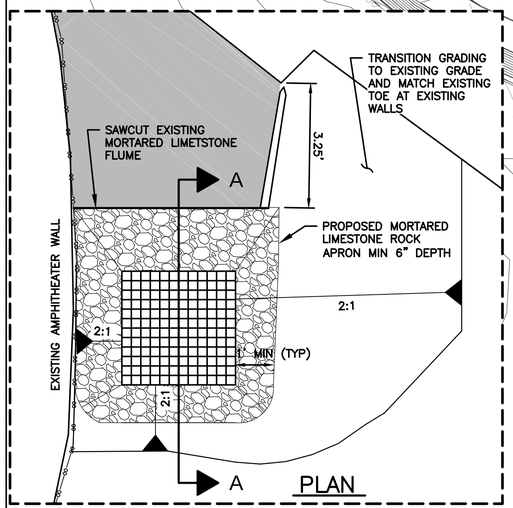
0+00

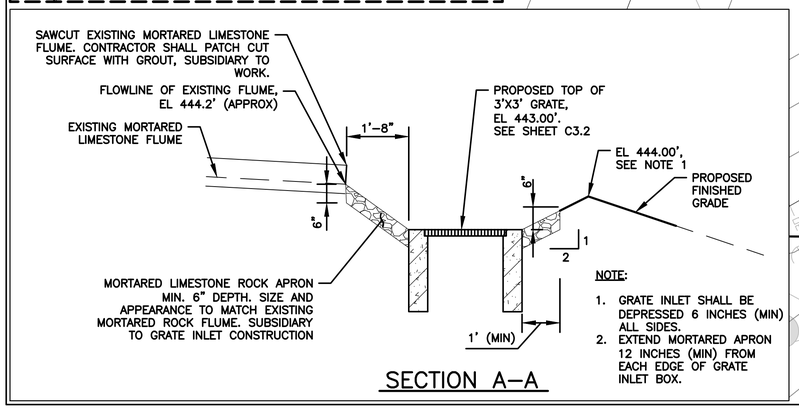
-0+10

-0+12.11

NOTES:

1. EXISTING TREE STUMPS SHALL BE REMOVED SUBSIDIARY TO ITEM 101S PREPARING RIGHT OF WAY. NOTIFY OWNER AND ENGINEER PRIOR TO REMOVAL OF ANY TREE ROOTS THAT MAY IMPACT AMPHITHEATER STRUCTURE.
2. EXISTING BURIED STRUCTURES TO REMAIN ARE HISTORIC AND SHALL NOT BE DAMAGED. SHOULD DAMAGE OCCUR, REPAIR TO PRE-CONSTRUCTION CONDITION AT NO COST TO OWNER.





NOTE:

1. GRATE INLET SHALL BE DEPRESSED 6 INCHES (MIN) ALL SIDES.
2. EXTEND MORTARED APRON 12 INCHES (MIN) FROM EACH EDGE OF GRATE INLET BOX.

HDR
Texas P.E. Firm
Registration No. F-754

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A	1/24/2014	60% DRAFT FOR REVIEW

PROJECT MANAGER	S. MUCHARD
DESIGNED BY	E. STEWART
DRAWN BY	C. AMARAL
CHECKED BY	C. PARKER
DATE	OCTOBER 2014
PROJECT NUMBER	220162

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90% DRAFT

CITY OF AUSTIN FOUNDED 1839

ELIZA SPRING OUTLET DAYLIGHTING

Austin, Texas

PROJECT GRADING PLAN

0 1" 2"

FILENAME C2.2.DWG

SCALE 1"=5'

SHEET **C2.2**

C:\pw\working\dallid\d473928\C2.2.dwg

Alignment: CHANNEL CONTROL ALIGNMENT
Description:

Tangent Data
Description PT StationNorthing Easting
Start:0+-10.000 10069118.28 3105802.584
End: 0+03.283 10069129.05 3105794.818
Tangent Data
Parameter ValueParameter Value
Length: 13.283 Course: "N 35° 46' 32.6873"" W"

Curve Point Data
Description Station Northing Easting
PC: 0+03.283 10069129.05 3105794.818
RP: 10069119.7 3105781.837
PT: 0+12.376 10069134.57 3105787.743
Circular Curve Data
Parameter ValueParameter Value
Delta: "32° 33' 47.7371"" Type:LEFT
Radius: 16
Length: 9.093 Tangent: 4.673
Mid-Ord: 0.642 External: 0.668
Chord: 8.971 Course: "N 52° 03' 26.5558"" W"

Tangent Data
Description PT StationNorthing Easting
Start:0+12.376 10069134.57 3105787.743
End: 0+25.148 10069139.28 3105775.873
Tangent Data
Parameter ValueParameter Value
Length: 12.772 Course: "N 68° 20' 20.4243"" W"

Curve Point Data
Description Station Northing Easting
PC: 0+25.148 10069139.28 3105775.873
RP: 10069154.16 3105781.779
PT: 0+38.314 10069148.37 3105766.861
Circular Curve Data
Parameter ValueParameter Value
Delta: "47° 08' 48.5387"" Type:RIGHT
Radius: 16
Length: 13.166 Tangent: 6.981
Mid-Ord: 1.335 External: 1.457
Chord: 12.798 Course: "N 44° 45' 56.1550"" W"

Tangent Data
Description PT StationNorthing Easting
Start:0+38.314 10069148.37 3105766.861
End: 0+49.332 10069158.64 3105762.878
Tangent Data
Parameter ValueParameter Value
Length: 11.018 Course: "N 21° 11' 31.8857"" W"

Curve Point Data
Description Station Northing Easting
PC: 0+49.332 10069158.64 3105762.878
RP: 10069155.03 3105753.554
PT: 0+57.489 10069164.3 3105757.312
Circular Curve Data
Parameter ValueParameter Value
Delta: "46° 44' 06.9443"" Type:LEFT
Radius: 10
Length: 8.157 Tangent: 4.321
Mid-Ord: 0.82 External: 0.893
Chord: 7.933 Course: "N 44° 33' 35.3578"" W"

Tangent Data
Description PT StationNorthing Easting
Start:0+57.489 10069164.3 3105757.312
End: 0+79.998 10069172.75 3105736.453
Tangent Data
Parameter ValueParameter Value
Length: 22.509 Course: "N 67° 55' 38.8300"" W"

Alignment: LEFT CHANNEL TOE
Description:

Tangent Data
Description PT StationNorthing Easting
Start:0+00.000 10069125.69 3105794.427
End: 0+03.929 10069128.87 3105792.13
Tangent Data
Parameter ValueParameter Value
Length: 3.929 Course: "N 35° 46' 32.6876"" W"

Curve Point Data
Description Station Northing Easting
PC: 0+03.929 10069128.87 3105792.13
RP: 10069124.2 3105785.64
PT: 0+08.863 10069131.77 3105788.229
Circular Curve Data
Parameter ValueParameter Value
Delta: "35° 20' 21.4623"" Type:LEFT
Radius: 8
Length: 4.934 Tangent: 2.548
Mid-Ord: 0.377 External: 0.396
Chord: 4.856 Course: "N 53° 26' 43.4188"" W"

Tangent Data
Description PT StationNorthing Easting
Start:0+08.863 10069131.77 3105788.229
End: 0+23.485 10069136.5 3105774.394
Tangent Data
Parameter ValueParameter Value
Length: 14.622 Course: "N 71° 06' 54.1499"" W"

Curve Point Data
Description Station Northing Easting
PC: 0+23.485 10069136.5 3105774.394
RP: 10069151.64 3105779.573
PT: 0+37.948 10069146.34 3105764.474
Circular Curve Data
Parameter ValueParameter Value
Delta: "51° 47' 24.6483"" Type:RIGHT
Radius: 16
Length: 14.463 Tangent: 7.767
Mid-Ord: 1.606 External: 1.786
Chord: 13.975 Course: "N 45° 13' 11.8258"" W"

Tangent Data
Description PT StationNorthing Easting
Start:0+37.948 10069146.34 3105764.474
End: 0+52.000 10069159.6 3105759.824
Tangent Data
Parameter ValueParameter Value
Length: 14.052 Course: "N 19° 19' 29.5016"" W"

Curve Point Data
Description Station Northing Easting
PC: 0+52.000 10069159.6 3105759.824
RP: 10069157.44 3105754.23
PT: 0+56.853 10069162.98 3105756.523
Circular Curve Data
Parameter ValueParameter Value
Delta: "46° 20' 17.9496"" Type:LEFT
Radius: 6
Length: 4.853 Tangent: 2.568
Mid-Ord: 0.484 External: 0.526
Chord: 4.721 Course: "N 44° 21' 40.8604"" W"

Tangent Data
Description PT StationNorthing Easting
Start:0+56.853 10069162.98 3105756.523
End: 0+60.425 10069164.35 3105753.222
Tangent Data
Parameter ValueParameter Value
Length: 3.572 Course: "N 67° 31' 49.8353"" W"

Alignment: RIGHT BENCH TOE
Description:

Tangent Data
Description PT StationNorthing Easting
Start:0+00.000 10069127.64 3105800.84
End: 0+12.964 10069138.24 3105793.374
Tangent Data
Parameter ValueParameter Value
Length: 12.964 Course: "N 35° 09' 39.5399"" W"

Curve Point Data
Description Station Northing Easting
PC: 0+12.964 10069138.24 3105793.374
RP: 10069127.57 3105778.221
PT: 0+24.367 10069145.03 3105784.436
Circular Curve Data
Parameter ValueParameter Value
Delta: "35° 14' 47.9497"" Type:LEFT
Radius: 18.536
Length: 11.403 Tangent: 5.888
Mid-Ord: 0.87 External: 0.913
Chord: 11.224 Course: "N 52° 47' 03.5147"" W"

Tangent Data
Description PT StationNorthing Easting
Start:0+24.367 10069145.03 3105784.436
End: 0+24.995 10069145.24 3105783.845
Tangent Data
Parameter ValueParameter Value
Length: 0.628 Course: "N 70° 24' 27.4897"" W"

Curve Point Data
Description Station Northing Easting
PC: 0+24.995 10069145.24 3105783.845
RP: 10069158.02 3105788.393
PT: 0+36.644 10069153.11 3105775.748
Circular Curve Data
Parameter ValueParameter Value
Delta: "49° 12' 55.6039"" Type:RIGHT
Radius: 13.562
Length: 11.65 Tangent: 6.212
Mid-Ord: 1.232 External: 1.355
Chord: 11.295 Course: "N 45° 47' 59.6876"" W"

Tangent Data
Description PT StationNorthing Easting
Start:0+36.644 10069153.11 3105775.748
End: 0+46.454 10069162.26 3105772.201
Tangent Data
Parameter ValueParameter Value
Length: 9.81 Course: "N 21° 11' 31.8856"" W"

Curve Point Data
Description Station Northing Easting
PC: 0+46.454 10069162.26 3105772.201
RP: 10069155.03 3105753.554
PT: 0+62.768 10069173.56 3105761.07
Circular Curve Data
Parameter ValueParameter Value
Delta: "46° 44' 06.9443"" Type:LEFT
Radius: 20
Length: 16.314 Tangent: 8.641
Mid-Ord: 1.64 External: 1.787
Chord: 15.865 Course: "N 44° 33' 35.3578"" W"

Tangent Data
Description PT StationNorthing Easting
Start:0+62.768 10069173.56 3105761.07
End: 0+67.180 10069175.22 3105756.981
Tangent Data
Parameter ValueParameter Value
Length: 4.412 Course: "N 67° 55' 38.8300"" W"

C:\pw\working\dal\d0473028\C2.3.dwg

Texas P.E. Firm
Registration No. F-754

ISSUE	DATE	DESCRIPTION
C	07/24/2015	90% DRAFT FOR REVIEW
B	10/3/2014	90% DRAFT FOR REVIEW
A	1/24/2014	60% DRAFT FOR REVIEW

PROJECT MANAGER	S. MUCHARD
DESIGNED BY	E. STEWART
DRAWN BY	C. AMARAL
CHECKED BY	C. PARKER
DATE	OCTOBER 2014
PROJECT NUMBER	220162

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90% DRAFT

CITY OF AUSTIN FOUNDED 1839

ELIZA SPRING OUTLET DAYLIGHTING

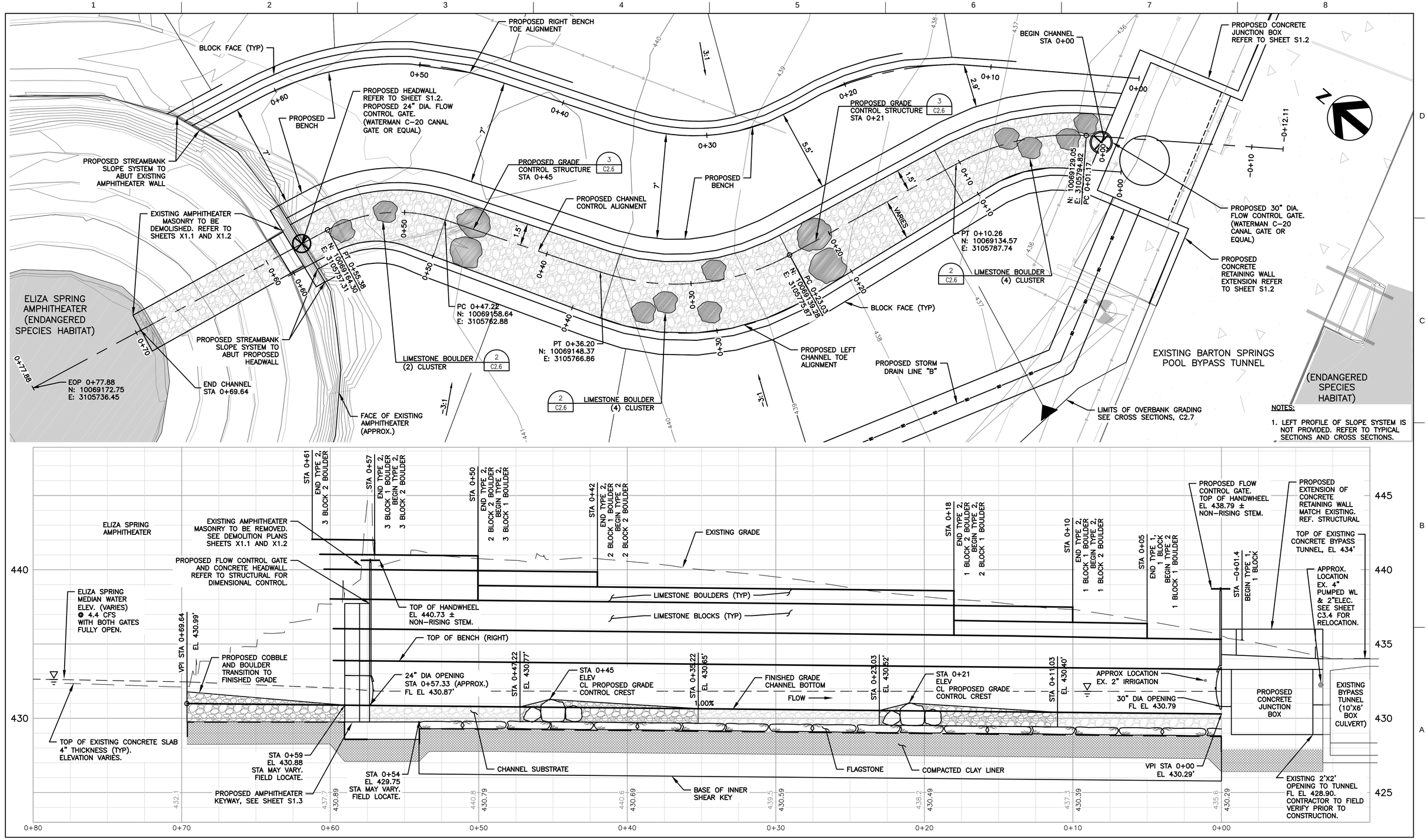
Austin, Texas

HORIZONTAL ALIGNMENT DATA

0 1" 2"

FILENAME C2.3.DWG
SCALE NONE

SHEET C2.3



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B	10/3/2014	90% DRAFT FOR REVIEW
A	1/24/2014	60% DRAFT FOR REVIEW
ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	S. MUCHARD
DESIGNED BY	E. STEWART
DRAWN BY	C. AMARAL
CHECKED BY	C. PARKER
DATE	OCTOBER 2014
PROJECT NUMBER	220162

Texas P.E. Firm
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CITY OF AUSTIN FOUNDED 1839

ELIZA SPRING OUTLET DAYLIGHTING

Austin, Texas

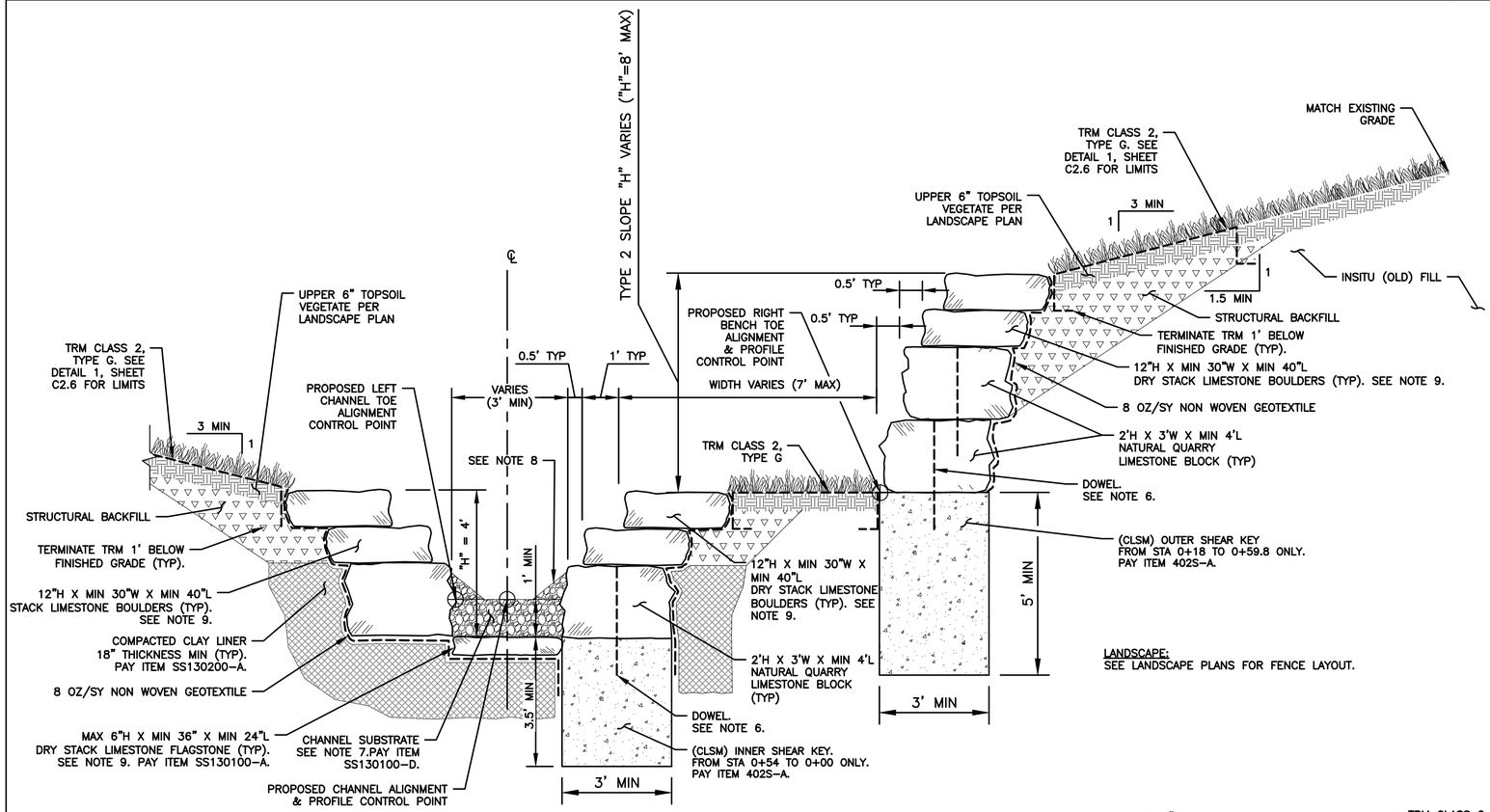
OUTLET CHANNEL PLAN & RIGHT PROFILE

0 1" 2"

FILENAME C2.4.DWG

SCALE 1"=3'

SHEET C2.4



TYPICAL SECTION W/ TYPE 2 SLOPE SYSTEM (1,2, OR 3 BLOCKS WITH DRY STACK BOULDERS, TYPE 2 SLOPE "H" ≤ 8' MAX)

2 – STA 0+05 TO 0+61

DESIGN CRITERIA SUMMARY								
Foundation Material	Sliding Factor of Safety		Overturning Factor of Safety		Bearing Capacity Factor of Safety		Slope Stability Factor of Safety	
	Computed	Criteria	Computed	Criteria	Computed	Criteria	Computed	Criteria
Clay-Sand	3.14	1.5	2.06	2.0	3.18	3.0	1.86	1.3

RETAINING WALL GEOTECHNICAL DESIGN PARAMETERS			
Material	Friction Angle (degrees)	Cohesion (psf)	Moist Unit Weight (pcf)
Clay-Sand	28	100	110
Structural (MSE) Backfill	32	250	122
Limestone Block	0	4000	140
LS Block Interface	24	NA	NA

DESIGN CRITERIA NOTE:

1. WALLS WERE DESIGNED IN ACCORDANCE WITH THE CITY OF AUSTIN, TRANSPORTATION CRITERIA MANUAL, CHAPTER 11.

SUBSURFACE CONDITIONS:

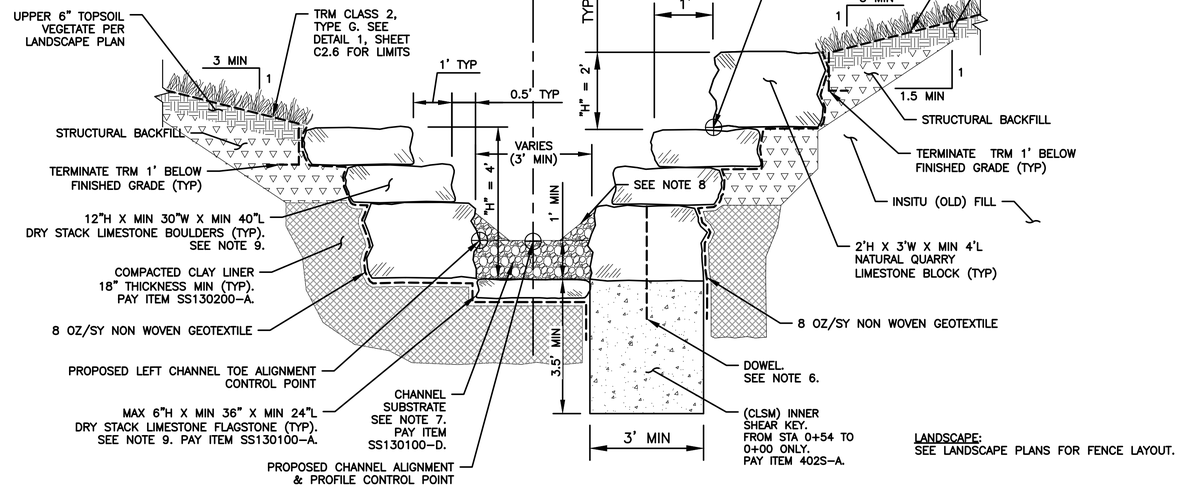
1. A LIMITED GEOTECHNICAL INVESTIGATION WAS CONDUCTED FOR THIS PROJECT, AS DESCRIBED IN A LETTER REPORT PREPARED BY HOLT ENGINEERING, INC, DATED MARCH 10, 2015. THE INVESTIGATION INCLUDED TWO BORINGS, EACH TO A DEPTH OF 22 FEET. THE ENCOUNTERED CONDITIONS INCLUDED A LAYER OF UNCLASSIFIED/UNDOCUMENTED FILL UNDERLAIN BY ALLUVIUM SOIL AND LIMESTONE BEDROCK. THE FILL MATERIAL EXTENDED TO A DEPTH OF 6 TO 7 FEET AT THE TWO BORING LOCATIONS. IT CAN GENERALLY BE DESCRIBED AS A LOOSE TO FIRM SILTY SANDY CLAY WITH GRAVEL. THE UNDERLYING ALLUVIUM WAS DESCRIBED AS MEDIUM DENSE CLAYEY GRAVEL TO CLAYEY SAND. THE LIMESTONE WAS ENCOUNTERED AT DEPTHS RANGING FROM 18 TO 20 FEET BELOW THE SURFACE, WHICH APPROXIMATELY CORRELATES TO ELEVATION 422 +/– FEET. REFER TO THE REFERENCED LETTER REPORT FOR FURTHER DETAILS OF THE ENCOUNTERED SUBSURFACE CONDITIONS.
2. GROUNDWATER WAS NOTED IN BOTH BORINGS AT A DEPTH RANGING FROM 7.6 TO 8.7 FEET BELOW EXISTING GROUND. BASED ON THIS INFORMATION GROUNDWATER IS ASSUMED TO LIE AT ELEVATION 433 +/– FEET. ELEVATIONS MAY VARY. SEE CARE OF WATER PLANS AND SPECIFICATIONS.
3. SOIL DESIGN–RELATED PARAMETERS WERE ESTIMATED BASED ON THE SUBSURFACE CONDITIONS ENCOUNTERED IN THE TWO REFERENCED SOIL BORINGS.

EXCAVATION:

4. CONTRACTOR IS RESPONSIBLE FOR TEMPORARY STABILITY RELATIVE TO EXCAVATION GEOMETRY AND EROSION CONTROL OF DISTURBED SOIL DUE TO CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL SUBMIT TO THE OWNER A SEALED EXCAVATION SAFETY SYSTEM DESIGN WHICH SHALL INCLUDE ANY SPECIAL SHORING, SLOPE PROTECTION, OR PHASING AS REQUIRED TO KEEP EXCAVATED AREAS STABLE THROUGHOUT THE CONSTRUCTION PERIOD. CONTRACTOR SHALL MODIFY THE EXCAVATION SAFETY DESIGN IN THE EVENT THE SUBSURFACE CONDITIONS, AS ENCOUNTERED DURING EXCAVATION, ARE MORE CRITICAL THAN DISCLOSED BY THE TWO REFERENCED SOIL BORINGS.
5. MAJOR EXCAVATION SHALL PRECEDE MSE AND BANK STABILIZATION AND SHALL BE PERFORMED IN ACCORDANCE WITH COA STANDARD SPECIFICATION ITEMS NO. 120S AND NO. 132S.

CONSTRUCTION NOTES:

6. EACH BLOCK–TO–SHEAR KEY AND BLOCK TO BLOCK INTERFACE SHALL BE DOWELED WITH A SINGLE BAR. FOR EACH BLOCK–TO–SHEAR KEY INTERFACE, DRILL 1.5 INCH DIAMETER HOLE CENTERED INTO THE BLOCK AND SHEAR KEY. FOR EACH BLOCK–TO–BLOCK INTERFACE, DRILL 1.5 INCH DIAMETER HOLE CENTERED BETWEEN THE FRONT AND BACK FACES OF THE UPPER BLOCK AND A MINIMUM OF 6 INCHES FROM THE PREVIOUSLY INSTALLED DOWELS IN THE LOWER BLOCK COURSE. NO ROCK HAMMERING WILL BE ALLOWED. INSTALL #8 EPOXY COATED REBAR DOWELS WITH MINIMUM 12 INCHES OF EMBEDMENT INTO UPPER AND LOWER BLOCK/CONCRETE LAYER. DOWELS SHALL BE ANCHORED WITH CONCRETE NON–SHRINK GROUT WHICH SHALL EXTEND THE FULL DEPTH OF THE HOLE AND COMPLETELY FILL ALL VOIDS. AFTER GROUT INSTALLATION NO PART OF THE DOWEL SHOULD BE VISIBLE OR EXPOSED.
7. CHANNEL SUBSTRATE MATERIAL WILL BE PROVIDED AND STOCKPILED BY THE CITY FOR USE ON THE PROJECT. MATERIAL WILL CONSIST OF LIMESTONE COARSE GRAVELS AND COBBLES.
8. CONTRACTOR SHALL PILE UP SUBSTRATE AT THE EDGE OF THE PROPOSED CHANNEL AS DIRECTED BY THE CITY'S BIOLOGIST TO PROVIDE VARIABLE DEPTHS ALONG BOTTOM WIDTH OF THE CHANNEL FOR FULL LENGTH OF CHANNEL. NO SEPARATE PAY.
9. LIMESTONE BOULDER AND FLAGSTONE WIDTH AND LENGTH DIMENSIONS SHALL VARY TO PROVIDE A NATURAL AESTHETIC. SEE SS130000 FOR MATERIAL AND DIMENSIONAL REQUIREMENTS.



TYPICAL SECTION W/ TYPE 1 SLOPE SYSTEM (1 BLOCK , TYPE 1 SLOPE = 2')

1 – STA 0+00 TO 0+05

		PROJECT MANAGER	S. MUCHARD
		DESIGNED BY	R. BOEHM
		DRAWN BY	C. AMARAL
C	07/24/2015 90% DRAFT FOR REVIEW		
B	10/3/2014 90% DRAFT FOR REVIEW	CHECKED BY	C. PARKER
A	1/24/2014 60% DRAFT FOR REVIEW	DATE	OCTOBER 2014
ISSUE	DATE DESCRIPTION	PROJECT NUMBER	220162

HDR Texas P.E. Firm Registration No. F-754

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF ROLLAND G. BOEHM TEXAS P.E. NO. 101598 DATE: JULY 24, 2015 IT IS NOT TO BE USED FOR CONSTRUCTION OR ANY OTHER PURPOSE.
90% DRAFT

CITY OF AUSTIN FOUNDED 1839

ELIZA SPRING OUTLET DAYLIGHTING

Austin, Texas

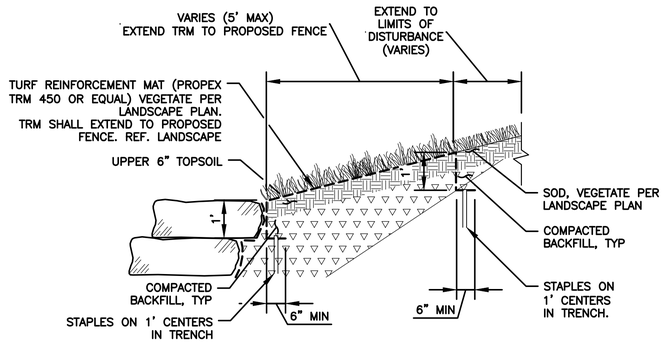
TYPICAL CHANNEL SECTIONS W/ SLOPE SYSTEM DETAILS

0 1" 2"

FILENAME C2.5.DWG
SCALE 1"=2'

SHEET C2.5

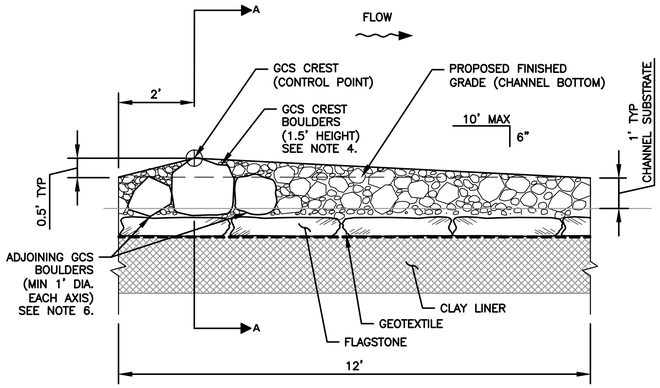
C:\pw\working\dat\d0473928\C2.5.dwg



NOTES:

1. ANCHOR TRM WITH 12–INCH, 8–GAUGE WIRE STAPLES, 2.5 STAPLES PER SQUARE YARD. FOR CLARITY, NOT ALL STAPLES ARE ILLUSTRATED.
2. ROLL SHALL BE INSTALLED PARALLEL TO CHANNEL. EDGES SHALL BE OVERLAPPED BY 4–INCHES. ROLL ENDS SHALL BE OVERLAPPED BY 6–INCHES. EDGES SHALL BE SECURED WITH STAPLES IN ACCORDANCE WITH MANUFACTURER'S GUIDELINES.
3. TRM SHALL BE SHINGLED IN THE DIRECTION OF THE DOWN SLOPE AND FLOW.
4. CONTRACTOR SHALL CONTACT OWNER/ENGINEER 3 DAYS PRIOR TO INSTALLATION OF TRM TO ALLOW FOR INSPECTION OF INSTALLATION BY CITY STAFF.
5. SCARIFY STRUCTURAL BACKFILL BY HAND RAKING TO A DEPTH NO DEEPER THAN 1–INCH PRIOR TO PLACEMENT OF APPROVED TOPSOIL.

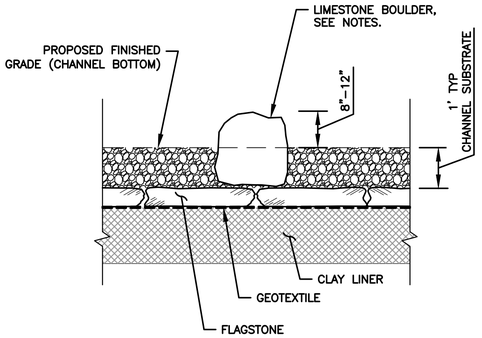
1 – TOP SLOPE DETAIL
N.T.S.



GRADE CONTROL PROFILE
N.T.S.

GRADE CONTROL NOTES:

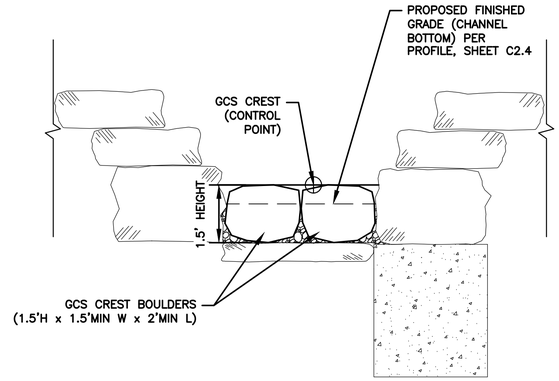
1. PLAN: BUILD GRADE CONTROL STRUCTURE (GCS) TO EXTEND ACROSS BASE OF CHANNEL WITH LARGEST DIAMETER BOULDERS AT THE CREST LINE AND REDUCE SIZES PROGRESSIVELY UPSTREAM AND DOWNSTREAM. MANUAL PLACEMENT AND SELECTION OF BOULDERS IS REQUIRED.
2. PROFILE: CONSTRUCT DOWNSTREAM FACE OF GRADE CONTROL AT APPROXIMATELY 20H:1V AND UPSTREAM FACE AT APPROXIMATELY 4H:1V SLOPE.
3. GCS BOULDERS SHALL BE HAND SELECTED TO COMPLY WITH GEOMETRIC REQUIREMENTS. BOULDERS IN CHANNEL ARE TO BE PRE–APPROVED BY OWNER AND ENGINEER PRIOR CONSTRUCTION. BOULDER PLACEMENT SHALL BE APPROVED BY OWNER AND ENGINEER.
4. EACH GCS CREST SHALL CONSIST OF TWO HAND SELECTED BOULDERS WHICH TOGETHER EXTEND THE FULL WIDTH OF CHANNEL. THE HEIGHT OF EACH GCS CREST BOULDER SHALL EXTEND 6 INCHES ABOVE PROPOSED FINISHED GRADE OF CHANNEL.
5. GCS CREST BOULDERS SHALL EXTEND AND REST SOUNDLY ON FLAGSTONE LAYER AT BASE OF CHANNEL SUBSTRATE.
6. ADDITIONAL BOULDERS (MIN 1' DIA. EACH AXIS) SHALL ABUT THE DOWNSTREAM AND UPSTREAM FACES OF THE GCS BOULDERS.



NOTES:

1. LIMESTONE BOULDER CLUSTERS SHALL EXTEND DOWN AND REST SOUNDLY ON FLAGSTONE LAYER AT BASE OF CHANNEL SUBSTRATE.
2. EACH CLUSTER BOULDER SHALL BE HAND SELECTED BY CONTRACTOR AND PRE–APPROVED BY OWNER PRIOR TO INSTALLATION. FINAL LOCATION OF EACH BOULDER SHALL BE COORDINATED WITH THE OWNER IN THE FIELD.
3. CLUSTER BOULDER DIMENSIONS SHALL VARY. LENGTH AND WIDTH SHALL BE 18 INCHES MIN, BUT HEIGHT SHALL BE 20 TO 24 INCHES TO EXTEND 8 TO 12 INCHES ABOVE PROPOSED FINISHED GRADE OF CHANNEL.

2 – LIMESTONE BOULDER CLUSTER
1"=2'



SECTION A–A
N.T.S.

3 – GRADE CONTROL STRUCTURE (GCS) DETAIL
N.T.S.

Texas P.E. Firm
Registration No. F-754

ISSUE	DATE	DESCRIPTION
C	07/24/2015	90% DRAFT FOR REVIEW
B	10/3/2014	90% DRAFT FOR REVIEW
A	1/24/2014	60% DRAFT FOR REVIEW

PROJECT MANAGER	S. MUCHARD
DESIGNED BY	E. STEWART
DRAWN BY	C. AMARAL
CHECKED BY	C. PARKER
DATE	OCTOBER 2014
PROJECT NUMBER	220162

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CITY OF AUSTIN FOUNDED 1839

ELIZA SPRING OUTLET DAYLIGHTING

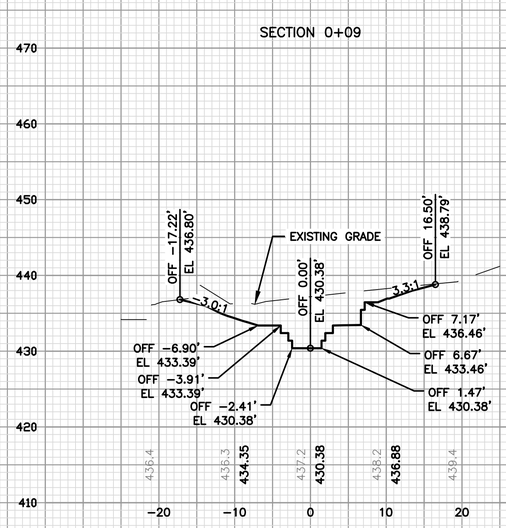
Austin, Texas

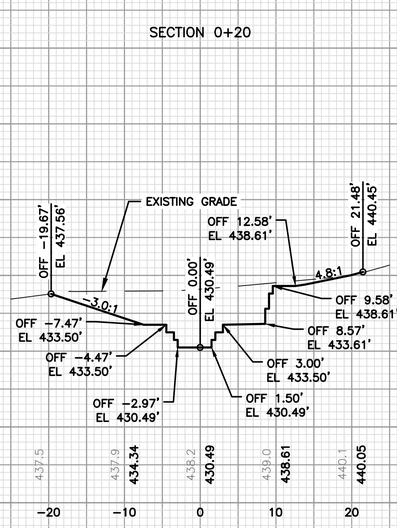
MISC. CHANNEL DETAILS

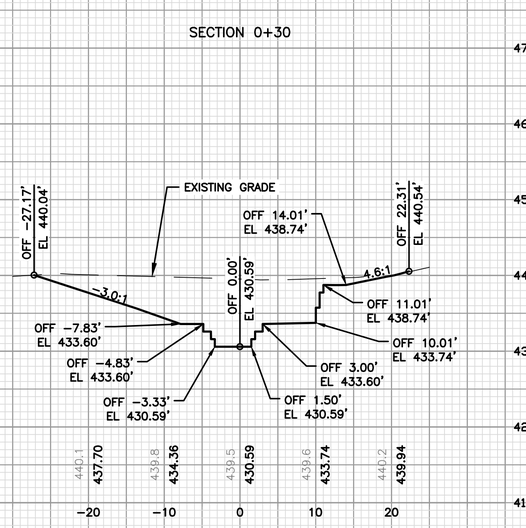
0 1" 2"

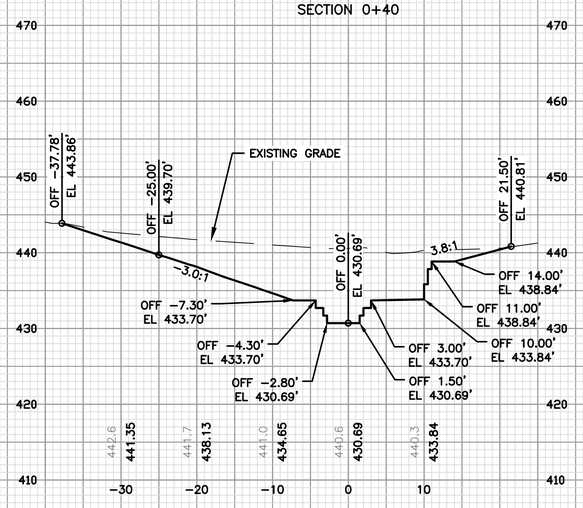
FILENAME C2.5.DWG
SCALE AS NOTED

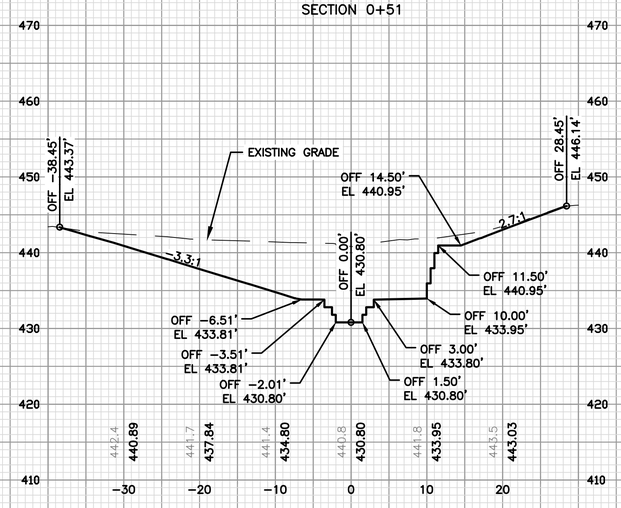
SHEET C2.6

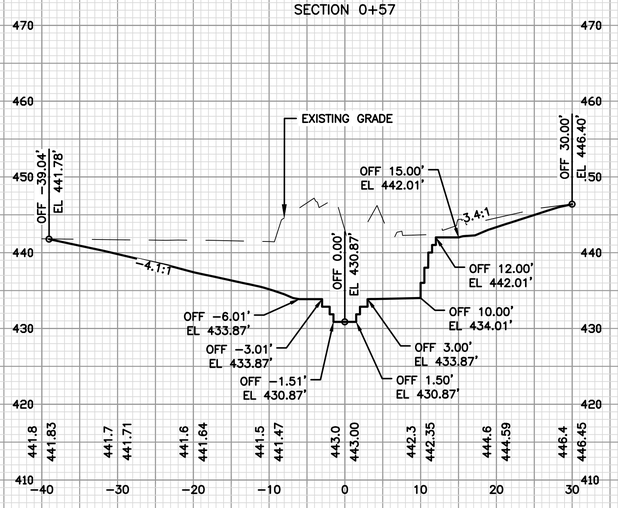












HDR
Texas P.E. Firm
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CITY OF AUSTIN FOUNDED 1839

ELIZA SPRING OUTLET DAYLIGHTING

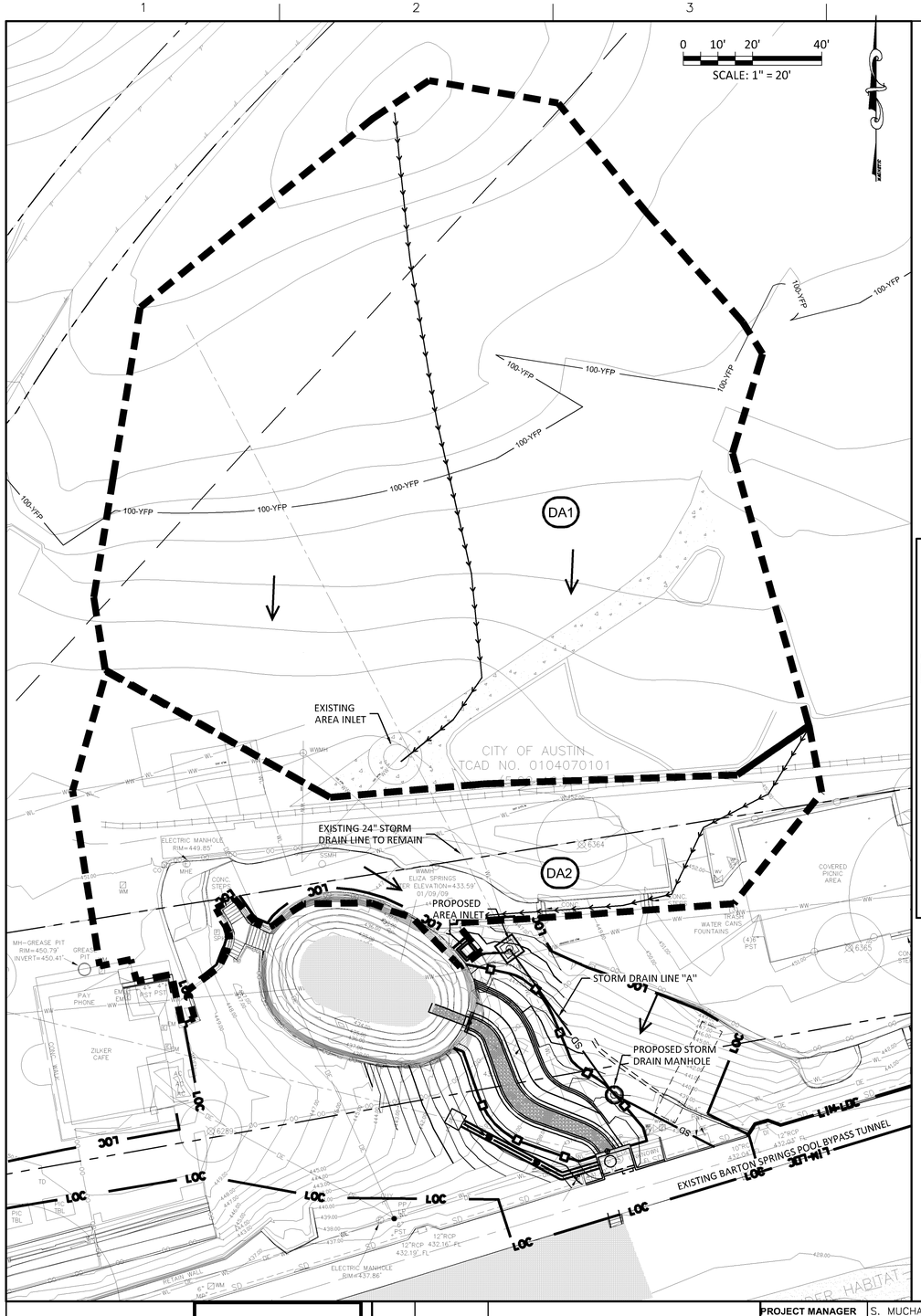
Austin, Texas

CROSS SECTIONS

0 1" 2"

FILENAME C2.7.DWG
SCALE 1" = 10'

SHEET C2.7



IMPERVIOUS COVER CALCULATIONS

Drainage Area	Area (Sq. Ft.)	Area (Acres)	Impervious Cover		Impervious Cover Composite C Value						Impervious Area (sf)	Percent Impervious	Pervious Classification	Pervious C Value					
			Concrete (%)	Asphalt (%)	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr				2-yr	5-yr	10-yr	25-yr	50-yr	100-yr
DA1	31524.5	0.723703	100.00	0.00	0.75	0.80	0.83	0.88	0.92	0.97	2410.16	8%	FS	0.37	0.40	0.42	0.46	0.49	0.53
DA2	9608.6	0.220583	100.00	0.00	0.75	0.80	0.83	0.88	0.92	0.97	5582.61	58%	FS	0.37	0.40	0.42	0.46	0.49	0.53

Composite C Value					
2-yr	5-yr	10-yr	25-yr	50-yr	100-yr
0.40	0.43	0.45	0.49	0.52	0.56
0.59	0.63	0.66	0.71	0.74	0.79

TIME OF CONCENTRATION CALCULATIONS

Drainage Area	Sheet Flow						Shallow Concentrated Flow 1					Shallow Concentrated Flow 2					Time of Conce
	Length	N	P2	ΔElev.	Slope	Sub Tc	Length	Paved?	ΔElev.	Slope	Sub Tc	Length	Paved?	ΔElev.	Slope	Sub Tc	
DA1	100	0.15	3.44	11	0.11	4.78	65.44	No	8	0.122	0.19	34.03	Yes	2	0.059	0.12	5.09
DA2	42.2	0.015	3.44	3	0.0711	0.45	35.87	Yes	3	0.084	0.10	59.4	No	5	0.084	0.21	0.77

HYDROLOGY CALCULATIONS

Drainage Area	Area (Acres)	T_c (min)	I_2	I_5	I_{10}	I_{25}	I_{50}	I_{100}	C_2	C_5	C_{10}	C_{25}	C_{50}	C_{100}	Q_2	Q_5	Q_{10}	Q_{25}	Q_{50}	Q_{100}
DA1	0.724	5.09	5.73	7.36	8.53	10.07	11.18	12.50	0.40	0.43	0.45	0.49	0.52	0.56	1.7	2.3	2.8	3.6	4.2	5.1
DA2	0.221	5.00	5.76	7.39	8.57	10.11	11.23	12.54	0.59	0.63	0.66	0.70	0.74	0.79	0.8	1.0	1.2	1.6	1.8	2.2

LEGEND

- EXISTING R.O.W./PROPERTY LINE
- EXISTING EASEMENT LINE
- EXISTING PAVEMENT
- PROPOSED CURB & GUTTER
- EXISTING CREEK/ SWALE
- DRAINAGE BOUNDARY LINE
- ENDANGERED SPECIES HABITAT
- (DA) DRAINAGE BOUNDARY LABEL
- NO INLET NUMBER
- DRAINAGE FLOW DIRECTION
- TIME OF CONCENTRATION LINE
- 493 EX. CONTOURS — 493 PROP. CONTOURS
- EX. STORM DRAIN INLET WITH LATERAL
- PROP. STORM DRAIN INLET WITH LATERAL
- 100-YFP 100-YR FLOODPLAIN
- CWQZ CRITICAL WATER QUALITY ZONE
- WQTZ WATER QUALITY TRANSITION ZONE

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WWW.CHANPARTNERS.COM
TEXAS REGISTRATION NO. F-13013

Texas P.E. Firm Registration No. F-754

ISSUE	DATE	DESCRIPTION
–	–	–

PROJECT MANAGER	S. MUCHARD
DESIGNED BY	–
DRAWN BY	–
CHECKED BY	
DATE	
PROJECT NUMBER	220162

CPE CHAN & PARTNERS CONSULTING CIVIL ENGINEERS

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CITY OF AUSTIN FOUNDED 1839

ELIZA SPRING OUTLET DAYLIGHTING

Austin, Texas

STORM DRAIN LINE "A" DRAINAGE AREA MAP

0 1" 2"

FILENAME C-1049--DRAINAGE_MAP2.DWG

SCALE

SHEET C3.1

IF THIS SHEET IS NOT 34'' X 22'', IT IS A REDUCED PRINT.

Jul 22, 2015 - 11:53am

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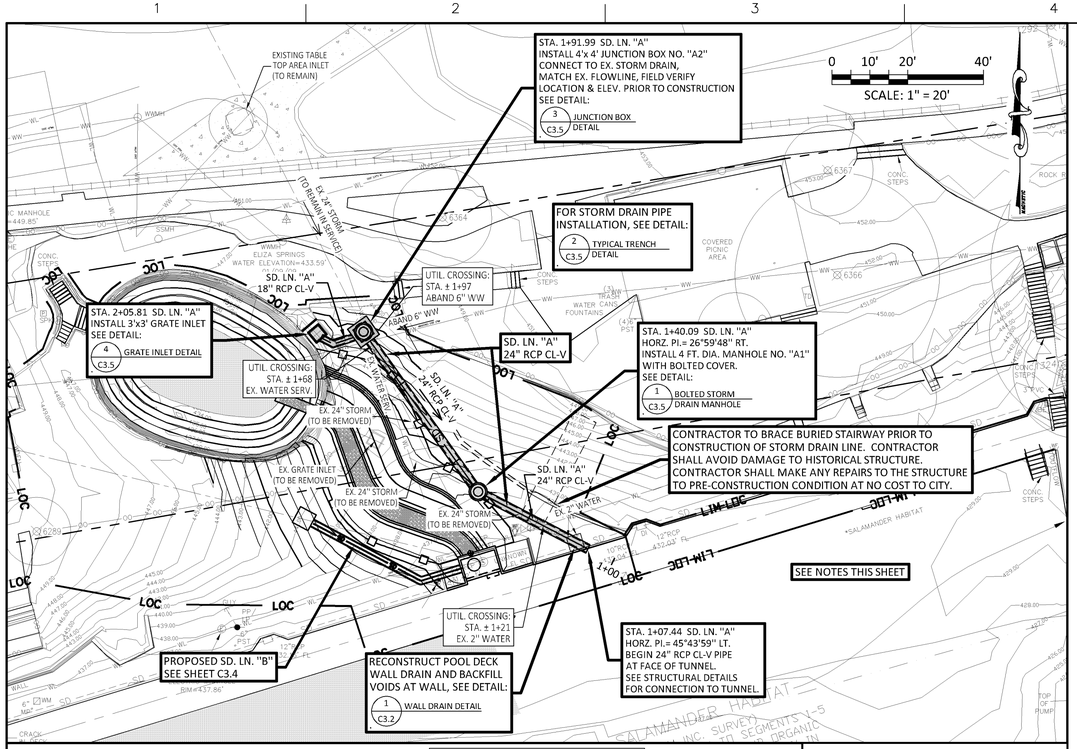
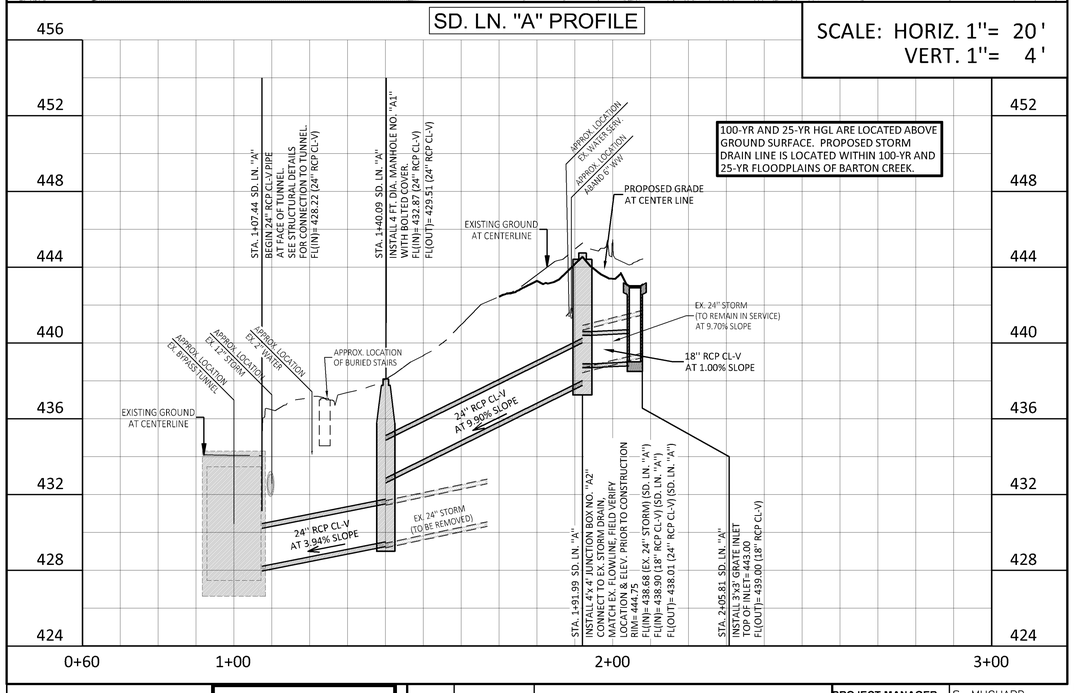




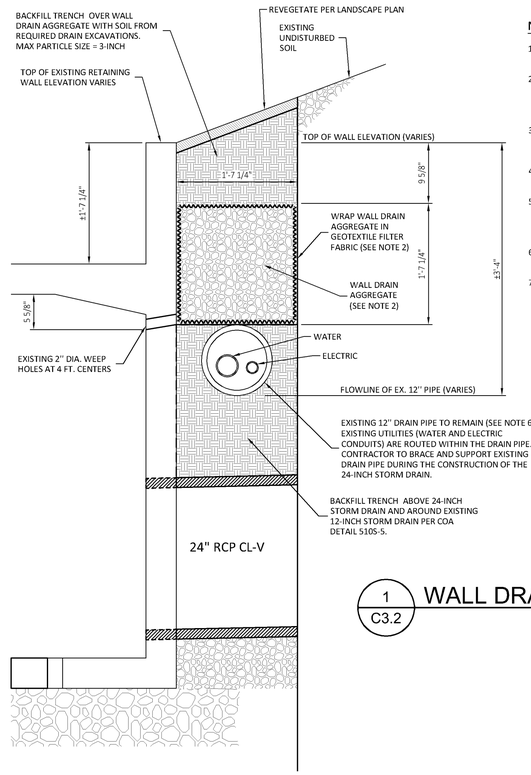
LEGEND

- EXISTING R.O.W./PROPERTY LINE
- EXISTING EASEMENT LINE
- EXISTING PAVEMENT
- ENDANGERED SPECIES HABITAT
- PROPOSED CURB & GUTTER
- PROPOSED LAYDOWN CURB
- DETAIL NUMBER / SHEET NUMBER — DETAIL CALLOUT REFERENCE
- 493 EX. CONTOURS
- 493 PROP. CONTOURS
- SD EX. STORM DRAIN
- SD PROP. STORM DRAIN
- EX. STORM DRAIN INLET WITH LATERAL
- PROP. STORM DRAIN INLET WITH LATERAL
- 100 EXISTING TREE (TO REMAIN)
- 100 EXISTING TREE (TO BE REMOVED)
- 493.00 NG= EXISTING GROUND ELEVATION
- 493.00 EX/PAV= EXISTING EDGE OF PAVEMENT
- 493.00 EX/GUT= EXISTING GUTTER
- 493.00 EX/SW= EXISTING SIDEWALK
- 493.00 PAV= PROPOSED PAVEMENT ELEVATION
- 493.00 FF= PROPOSED FINISH FLOOR ELEVATION
- 493.00 GUT= PROPOSED GUTTER ELEVATION
- 493.00 TC= PROPOSED TOP OF CURB
- 493.00 SW= PROPOSED TOP OF SIDEWALK
- 493.00 FL= PROPOSED FLOW LINE
- -1.00% PROPOSED SLOPE (SLOPE DOWN)
- G.B. OR GRADE BREAK — PROPOSED GRADE BREAK ON SURFACE (CNC., PVMT., GRASS, ETC.)
- SPILL SPILL — DENOTES THE CURB & GUTTER SHALL BE A SPILL CURB.

CONTRACTOR NOTES:

EXISTING UNDERGROUND & OVERHEAD UTILITIES IN VICINITY. CONTRACTOR TO CONTACT UTILITY COMPANIES & CITY OF AUSTIN PRIOR TO CONSTRUCTION. CONTRACTOR SHOULD CONTACT PARD FOR IRRIGATION AND SPRING WATER DELIVERY SYSTEM. CONTRACTOR TO FIELD VERIFY EXISTING UTILITY LOCATIONS & DEPTH PRIOR TO BEGINNING CONSTRUCTION.

CONTRACTOR SHALL CONSIDER PROPOSED UTILITY IMPROVEMENTS AND PROVIDE ADEQUATE HORIZONTAL AND VERTICAL CLEARANCE DURING INSTALLATION OF ALL UTILITY INFRASTRUCTURE.



1 C3.2 WALL DRAIN DETAIL

NOTES:

1. WALL DRAIN AGGREGATE SHALL BE 5/8" TO 1" SIZE AND SHALL COMPLY WITH STANDARD SPECIFICATION ITEM 551.
2. INSTALL GEOTEXTILE FILTER FABRIC AT THE INTERFACE BETWEEN WALL DRAIN AGGREGATE AND IN-SITU SOILS AND OVERLAP 12". GEOTEXTILE FILTER FABRIC SHALL BE WEBTEC, TERRA NO. 4 (A05 US STANDARD SIEVE 70) GEOTEXTILE FABRIC OR ENGINEER APPROVED EQUAL.
3. CONTRACTOR SHALL PROTECT EXISTING WATER DISTRIBUTION SYSTEM IN PLACE. CONTRACTOR SHALL REPAIR AND RESTORE DAMAGED MAIN IRRIGATION AND WATER SYSTEM TO PRE-CONSTRUCTION CONDITION AT NO ADDITIONAL COST TO THE CITY.
4. CONTRACTOR SHALL PROVIDE TEMPORARY EXCAVATION SAFETY SYSTEM IN ACCORDANCE WITH STANDARD SPECIFICATION ITEM 509S.
5. SPOIL MATERIAL EXCAVATED FOR WALL DRAIN IMPROVEMENTS, IF NOT USED TO BACKFILL EXCAVATION, SHALL BE TAKEN DIRECTLY TO TEMPORARY SPOILS AREA. NO SPOIL, EVEN IF USED FOR BACKFILL, SHALL REMAIN OVERNIGHT ALONG THE WALL DRAIN IMPROVEMENTS.
6. PROVIDE PROTECTIVE HARDWOOD TIMBER MATTING ON TUNNEL DECK TO PREVENT DAMAGE TO DECK.
7. IMMEDIATELY STABILIZED SOIL AFTER CONSTRUCTION PER LANDSCAPE PLANS.

NOTES

1. CONSTRUCT GRATE INLET IN ACCORDANCE WITH CITY OF AUSTIN STANDARD SPECIFICATION ITEM NO. 508S AND ITS CROSS REFERENCED MATERIALS AND SPECIFICATIONS.
2. CONSTRUCT STORM DRAIN PIPE IN ACCORDANCE WITH CITY OF AUSTIN STANDARD SPECIFICATION ITEM NO. 510 AND ITS CROSS REFERENCED MATERIALS AND SPECIFICATIONS.
3. DESIGN, FURNISH, INSTALL, MAINTAIN, AND REMOVE TEMPORARY EXCAVATION SAFETY SYSTEMS IN ACCORDANCE WITH CITY OF AUSTIN STANDARD SPECIFICATION ITEM NO. 509S AND ITS CROSS REFERENCED MATERIALS.
4. CONSTRUCT STORM DRAIN MANHOLE IN ACCORDANCE WITH CITY OF AUSTIN STANDARD SPECIFICATION ITEM NO. 506 AND ITS CROSS REFERENCED MATERIALS AND SPECIFICATIONS.
5. POTHOLE AND CONFIRM EXISTING UTILITY CROSSINGS.
6. POTHOLE AND CONFIRM EXISTING STORM DRAIN PIPE ALIGNMENT AND GRADE AT CONNECTION LOCATIONS. CONTRACTOR TO MINIMIZE IMPACT TO 12-INCH STORM DRAIN PIPE AND CORRESPONDING WATER AND ELECTRIC LINES WITHIN THE PIPE.
7. CONSTRUCT ALL STORM DRAIN LINES FROM DOWNSTREAM TO UPSTREAM. IN THE EVENT EXISTING STORM DRAIN LINES ARE DEMOLISHED, PROVIDE PROVISIONS TO DRAIN STORM WATER RUNOFF DURING CONSTRUCTION OF THE NEW LINES IN CASE OF A STORM EVENT. THESE PROVISIONS SHALL INCLUDE TEMPORARY STORM DRAIN LINES (PVC SCHEDULE 40 PIPE IS ACCEPTABLE), BY-PASS PUMPING, AND/OR BY OTHER MEANS.
8. BACKFILL ALL VOIDS AND TRENCHES CREATED BY THE DEMOLITION, EXCAVATION, AND REMOVAL OF EXISTING STORM DRAIN STRUCTURES, PIPES, AND CONDUITS IN ACCORDANCE WITH CITY OF AUSTIN STANDARD SPECIFICATION NO. 401S AND ITS CROSS REFERENCED MATERIALS AND SPECIFICATIONS.
9. REFER TO EROSION/SEDIMENTATION CONTROL PLAN FOR EROSION AND SEDIMENTATION CONTROLS AND TREE PROTECTION MEASURES ASSOCIATED WITH STORM DRAIN IMPROVEMENTS.
10. ALL STORM DRAIN PIPES ARE CLASS V UNLESS OTHERWISE NOTED.
11. ALL MANHOLES SHALL BE RATED FOR AN EQUIVALENT AASHTO HS-20 DIRECT LOADING.
12. EXCAVATION SAFETY SYSTEMS SHALL BE DESIGNED TO INCLUDE LOADING FROM POTENTIAL UNSTABLE FILL MATERIAL (INCLUDING TRENCH SPOILS AND BACKFILL AND BEDDING OF ADJACENT UTILITY TRENCHES), GROUND WATER, AND LOADING FROM THRUST AND LEAKAGE FROM WATER UTILITY LINES.
13. ALL STORM DRAIN MANHOLES SHALL HAVE BOLTED COVERS.
14. PROVIDE NOTIFICATIONS, SUSPEND CONSTRUCTION, AND FURNISH AND INSTALL MITIGATION MEASURES FOR VOIDS AND WATER FLOW FEATURES DISCOVERED IN BED ROCK DURING EXCAVATION ACTIVITIES IN ACCORDANCE WITH CITY OF AUSTIN STANDARD ITEM NO. 658S.

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TEXAS REGISTRATION NO. F-13013

HDR
Texas P.E. Firm
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ISSUE	DATE	DESCRIPTION
–	–	–

PROJECT MANAGER	S. MUCHARD
DESIGNED BY	–
DRAWN BY	–
CHECKED BY	
DATE	
PROJECT NUMBER	220162

CPE CHAN & PARTNERS CONSULTING CIVIL ENGINEERS

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CITY OF AUSTIN FOUNDED 1839

ELIZA SPRING OUTLET DAYLIGHTING

Austin, Texas

STORM DRAIN LINE "A" PLAN & PROFILE

0 1" 2"

FILENAME	C-1049--STORM PNP.DWG
SCALE	
SHEET	C3.2

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Jul 22, 2015 - 11:53am

Drawing name: J:\1049-Eliza Springs Improvements\00-Drawings\Permit\C-1049--STORM PNP.dwg

Runoff Coefficient Calculations

		Impervious Cover								Pervious Cover							Composite Runoff Coefficient					
				Runoff Coefficient								Runoff Coefficient										
Drainage Area ID	Total Area (acres)	Area (acres)	Character of Surface	2-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr	Area (acres)	Character of Surface	2-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr	2-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr
DA 3	10.05	2.49	Asphalt	0.73	0.77	0.81	0.86	0.90	0.95	7.57	Grass, Fair Cond., Steep Slopes	0.37	0.40	0.42	0.46	0.49	0.53	0.46	0.49	0.52	0.56	0.59	0.63

Time of Concentration Calculations

Flow Path Segment Type	Surface Description	Roughness Coefficient / Constant	Segment Length (ft)	Up-stream Elevation (ft)	Down-stream Elevation (ft)	Slope (ft/ft, 0.005 min)	Travel Time (min)
Sheet	Short Grass Prarie	0.15	43	490.0	490.0	0.005	8.4
Shallow Concen	Unpaved	16.1345	229	490.0	482.0	0.035	1.3
Shallow Concen	Paved	20.3282	359	482.0	456.0	0.072	1.1
Shallow Concen	Paved	20.3282	801	456.0	450.0	0.007	7.6
					Total Time of Concentration		18.3

Rainfall Intensity and Peak Discharge

Rainfall Intesity (in/hr)						Peak Discharge (cfs)					
2-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr	2-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr
3.53	4.55	5.29	6.33	7.21	8.20	16.3	22.5	27.5	35.6	42.9	52.3

DA3
10.05 AC

DRAINAGE LEGEND

- TIME OF CONCENTRATION FLOWPATH
- 100 YEAR — FEMA 100-YR FLOODPLAIN LIMITS
- CWQZ — CRITICAL WATER QUALITY ZONE
- WQTZ — WATER QUALITY ZONE
- DRAINAGE AREA

EXISTING PIPE TO REMAIN
LIMITS OF GRADING
ENDANGERED SPECIES HABITAT
PROPOSED JUNCTION BOX AND STORM DRAIN LINE B
EXISTING CURB INLET
BARTON CREEK
BARTON CREEK DOWNSTREAM DAM
ENDANGERED SPECIES HABITAT
BARTON SPRINGS POOL BYPASS TUNNEL
BARTON SPRINGS POOL
BARTON CREEK UPSTREAM DAM

Texas P.E. Firm
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PROJECT MANAGER	S. MUCHARD
DESIGNED BY	S. MUCHARD
DRAWN BY	C. AMARAL
CHECKED BY	C. PARKER
DATE	JULY 2015
PROJECT NUMBER	220162

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CITY OF AUSTIN FOUNDED 1839

ELIZA SPRING OUTLET DAYLIGHTING

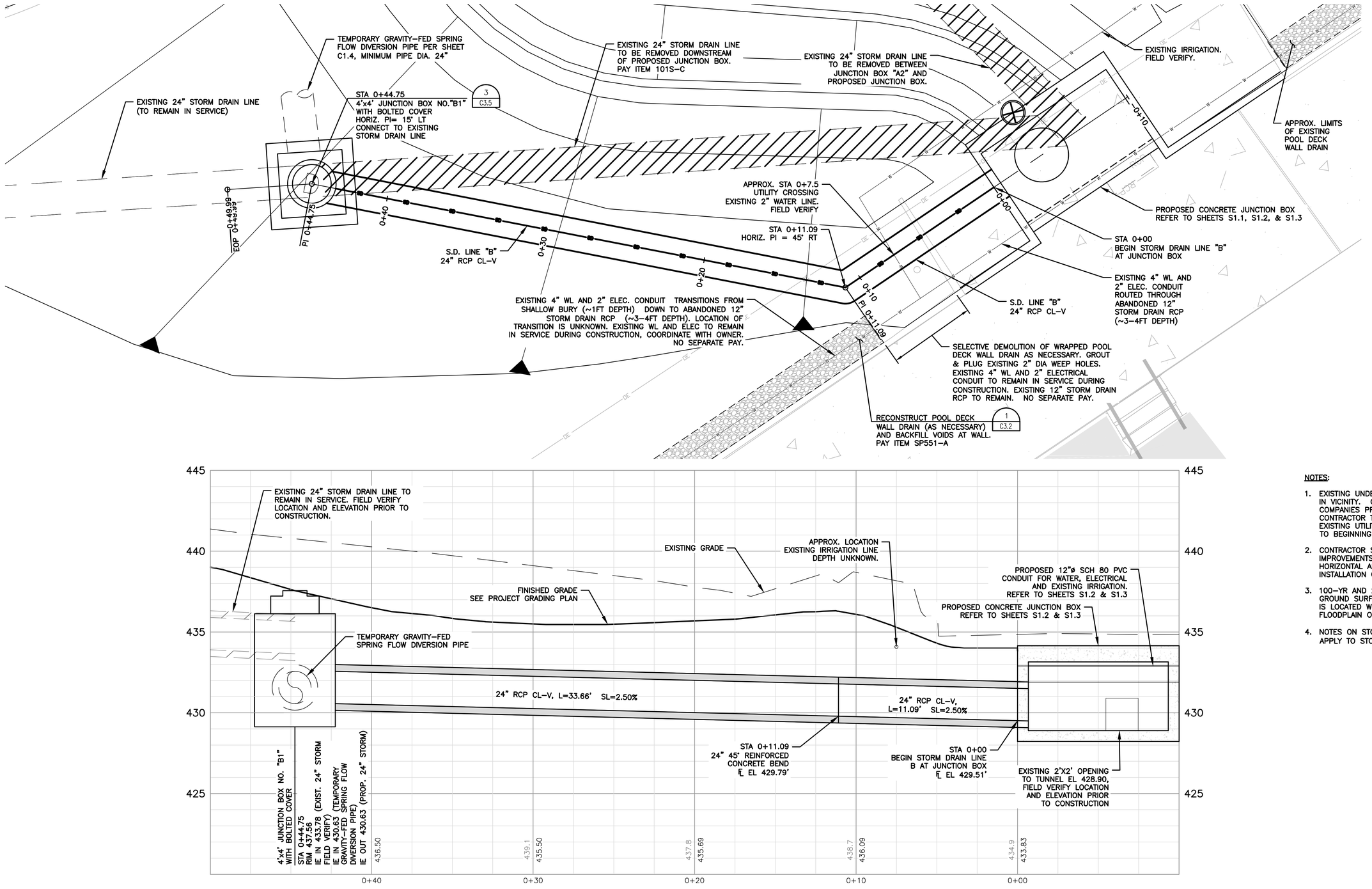
Austin, Texas

STORM DRAIN LINE B DRAINAGE AREA MAP

0 1" 2"

FILENAME C3.3.DWG
SCALE 1" = 50'

SHEET **C3.3**



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2. CONTRACTOR SHALL CONSIDER PROPOSED UTILITY IMPROVEMENTS AND PROVIDE ADEQUATE HORIZONTAL AND VERTICAL CLEARANCE DURING INSTALLATION OF ALL UTILITY INFRASTRUCTURE.
3. 100-YR AND 25-YR HGL ARE LOCATED ABOVE GROUND SURFACE. PROPOSED STORM DRAIN LINE IS LOCATED WITHIN 100-YR AND 25-YR FLOODPLAIN OF BARTON CREEK.
4. NOTES ON STORM DRAIN LINE "A" SHEET C3.2 APPLY TO STORM DRAIN LINE "B".

Texas P.E. Firm
Registration No. F-754

ISSUE	DATE	DESCRIPTION
C	07/24/2015	90% DRAFT FOR REVIEW
B	10/3/2014	90% DRAFT FOR REVIEW
A	1/24/2014	60% DRAFT FOR REVIEW

PROJECT MANAGER	S. MUCHARD
DESIGNED BY	S. MUCHARD
DRAWN BY	C. AMARAL
CHECKED BY	C. PARKER
DATE	JULY 2015
PROJECT NUMBER	220162

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF SCOTT M. MUCHARD TEXAS P.E. NO.89409 DATE: JULY 24, 2015
IT IS NOT TO BE USED FOR CONSTRUCTION OR ANY OTHER PURPOSE.
90% DRAFT

CITY OF AUSTIN FOUNDED 1839

ELIZA SPRING OUTLET DAYLIGHTING

Austin, Texas

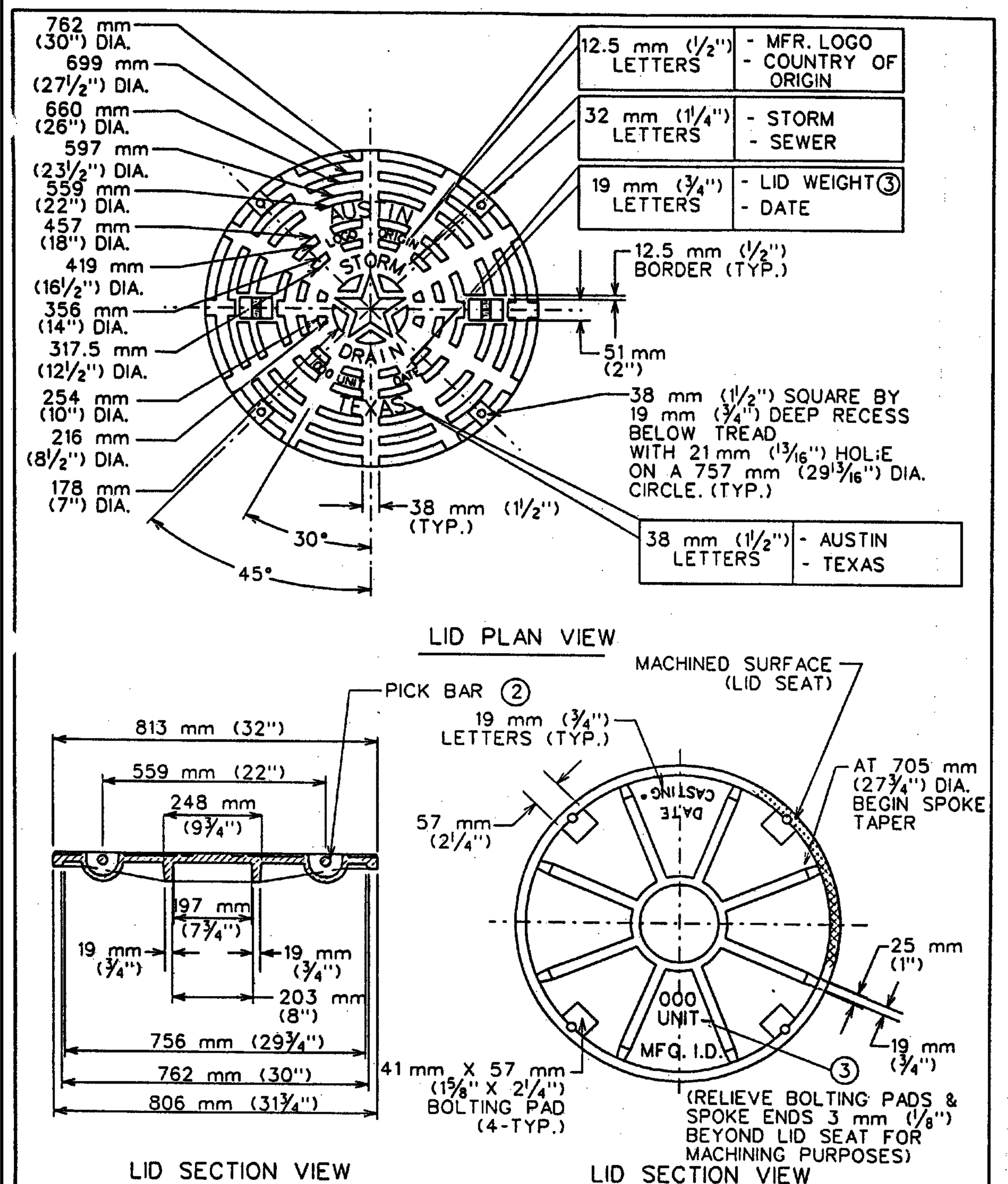
STORM DRAIN LINE B PLAN & PROFILE

0 1" 2"

FILENAME C3.4.DWG
SCALE 1"=3'

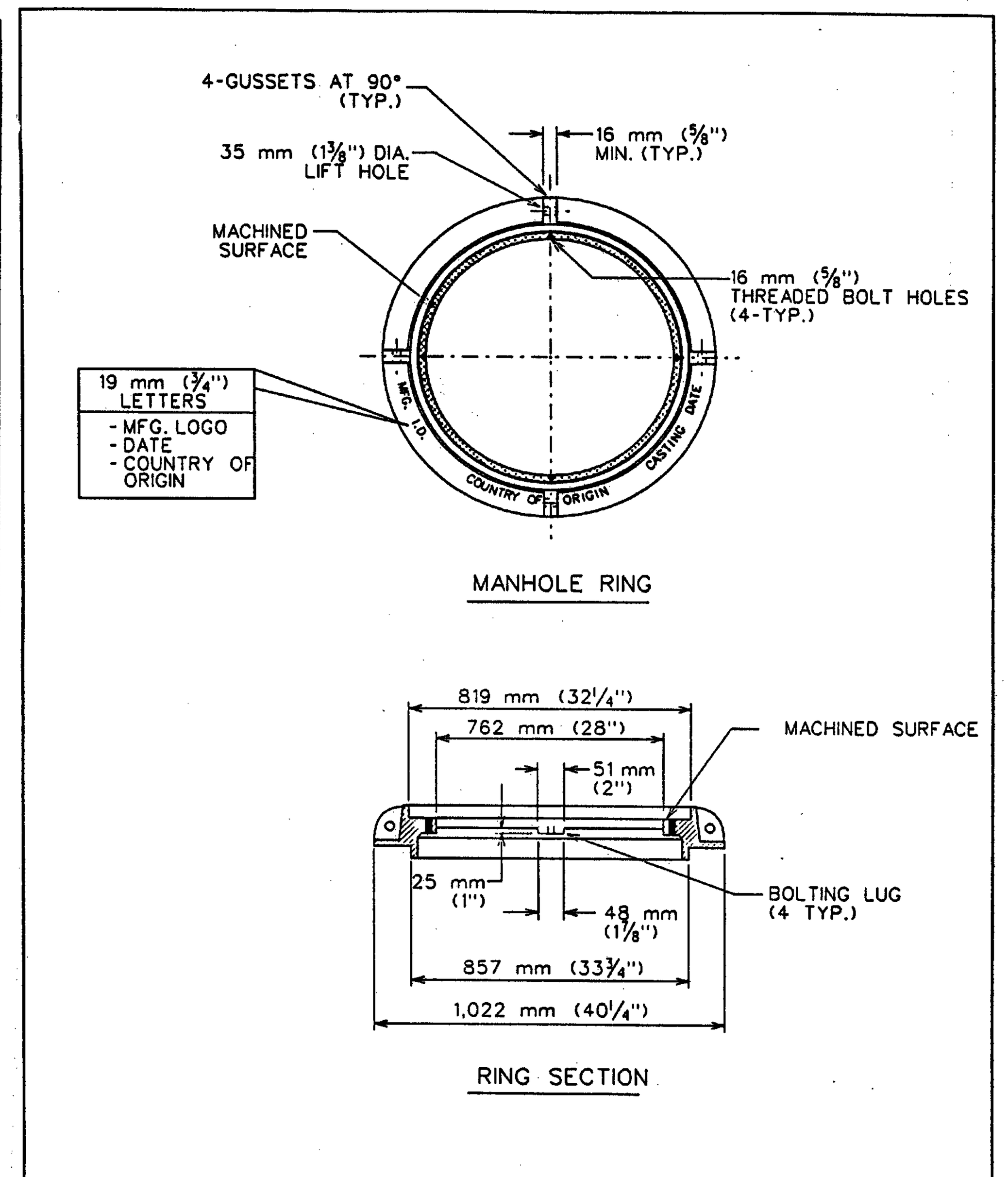
SHEET
C3.4

1 | 2 | 3 | 4 | 5 | 6 | 7 | 8



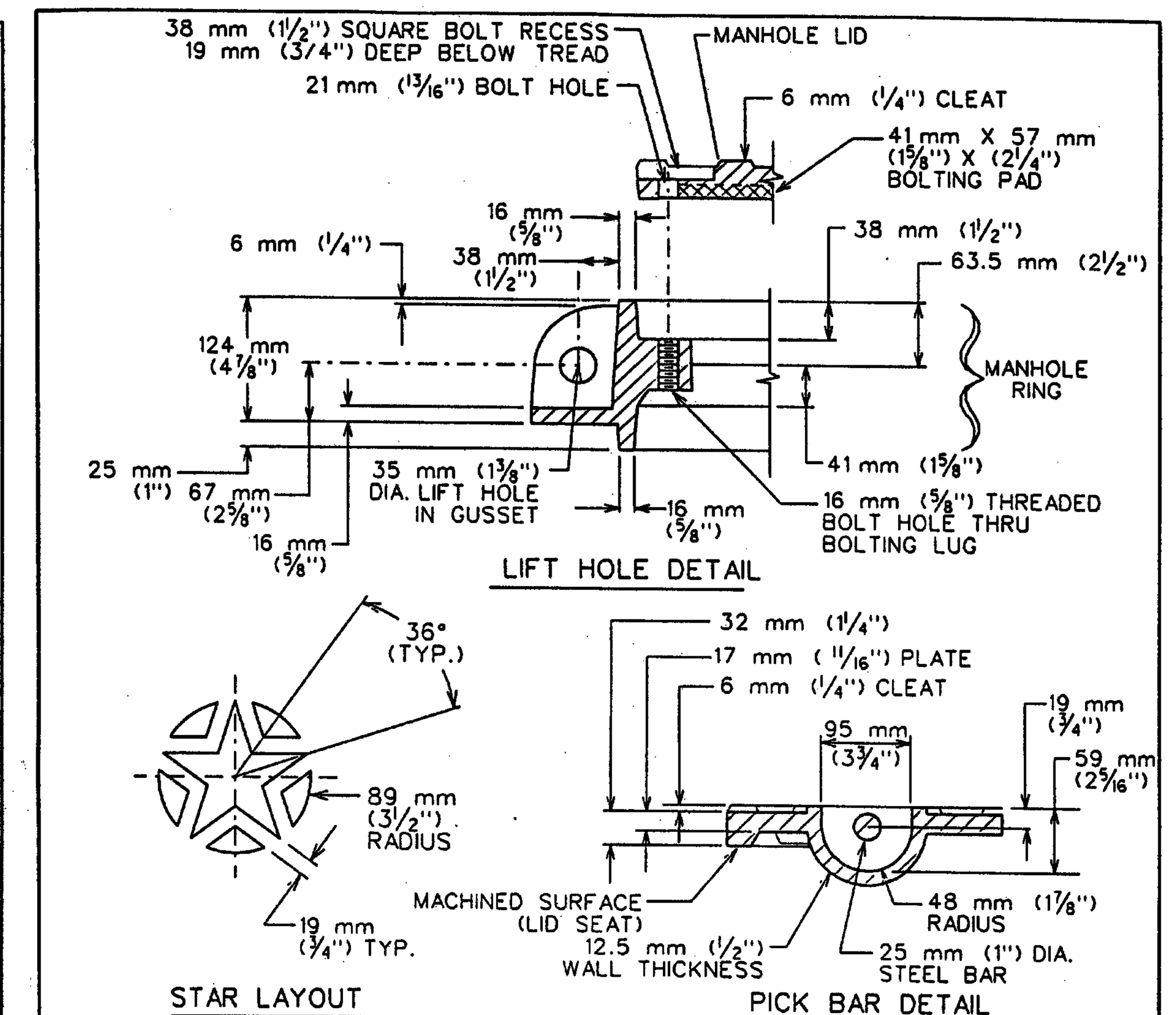
CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	BOLTED STORM DRAIN MANHOLE RING AND 813 mm (32") COVER	
ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 503S-5S 1 OF 3

1 / C3.5



CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	BOLTED STORM DRAIN MANHOLE RING AND 813 mm (32") COVER	
ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 503S-5S 2 OF 3

1 / C3.5

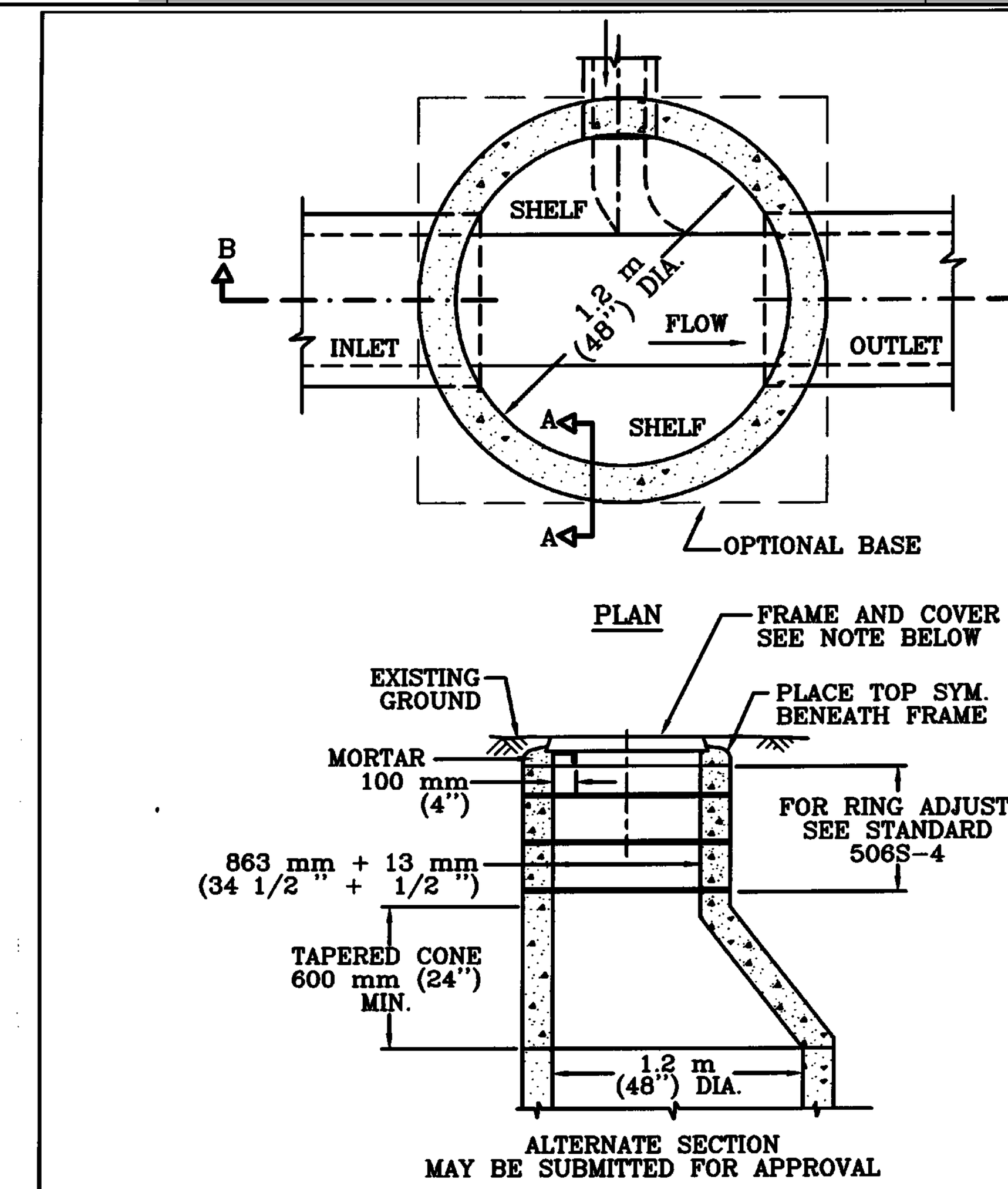


NOTES:

1. ALL CORNERS AND EDGES SHALL HAVE A 1.5 mm (1/16") MINIMUM RADIUS.
2. LIDS SHALL BE CAST WITH TWO 25 mm (1") DIA. STEEL PICK BARS.
3. LID WEIGHTS SHALL BE 935 N (210 LBS.) FOR CAST IRON OR 779 N (175 LBS.) FOR DUCTILE IRON. WEIGHT SHALL BE CAST ON BOTH TOP AND BOTTOM OF LID.
4. MANUFACTURER SHALL PROVIDE INDEPENDENT TESTING LABORATORY REPORT ON 25,000 POUND PROOF LOAD TEST CONDUCTED ACCORDING TO AASHTO M-306.
5. FILLETS SHALL BE 6 mm (1/4") RADIUS UNLESS OTHERWISE SPECIFIED.
6. MANUFACTURER SHALL REMOVE EXCESS IRON AND MACHINE FINISH SEATING SURFACES TO NOTED DIMENSIONS.
7. BOLTS SHALL BE 16 mm X 44 mm (5/8" x 1 3/4" x 11 N.C.) STAINLESS STEEL HEX HEAD (TYPE 316).

CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	BOLTED STORM DRAIN MANHOLE RING AND 813 mm (32") COVER	
ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 503S-5S 3 OF 3

1 / C3.5



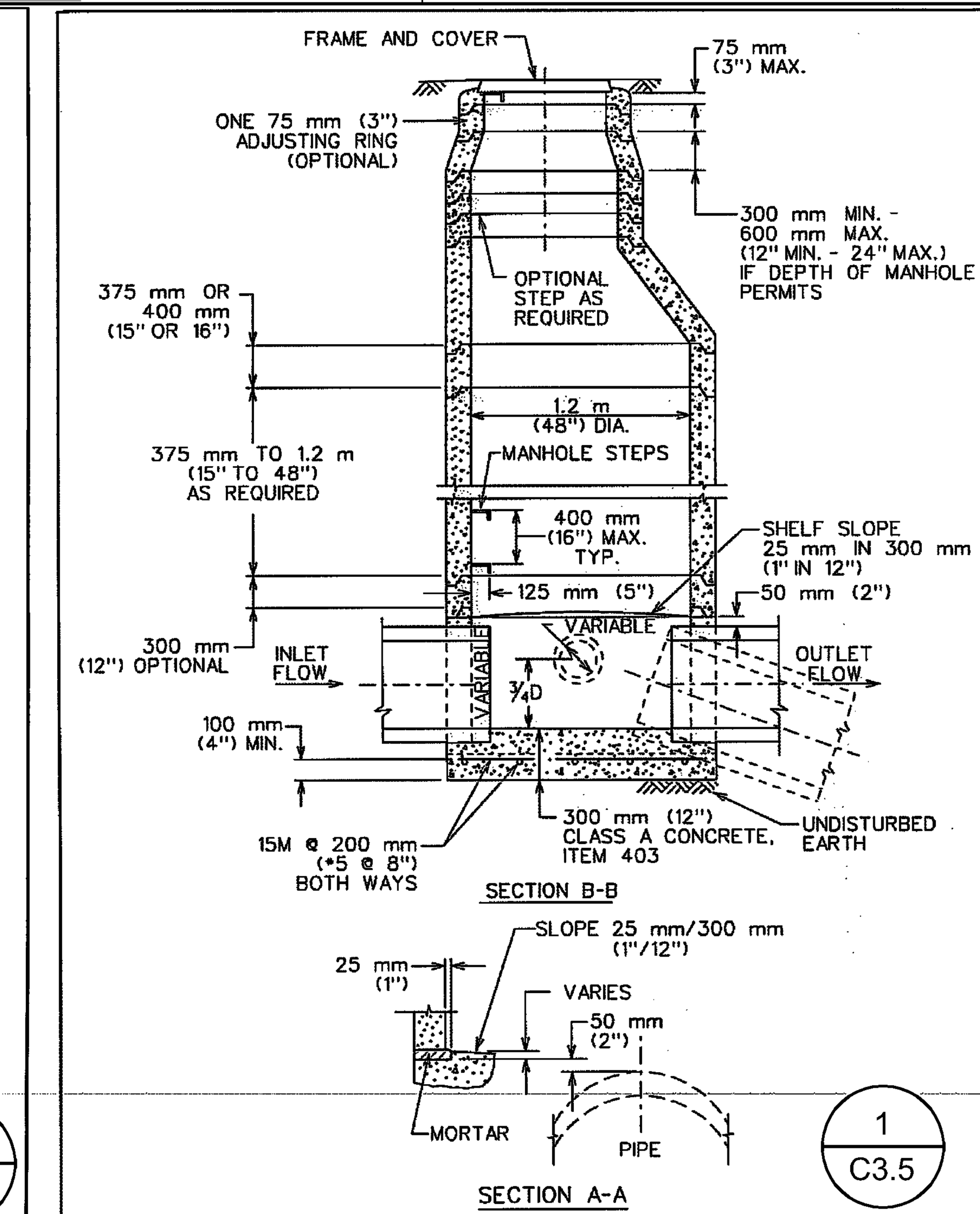
NOTE:
USE 800 mm (32") FRAME AND COVER.

MINIMUM MANHOLE DIA.	MINIMUM PIPE SIZE
1.2 m (4')	450 TO 600 mm (18 TO 24")
1.5 m (5')	750 mm TO 1.1 m (30 TO 42")
1.8 m (6')	1.2 TO 1.4 m (48 TO 54")
2.1 m (7')	1.5 TO 1.7 m (60 TO 66")

SIZE TO BE USED IS DEPENDENT ON DRAIN ANGLES.

1 / C3.5

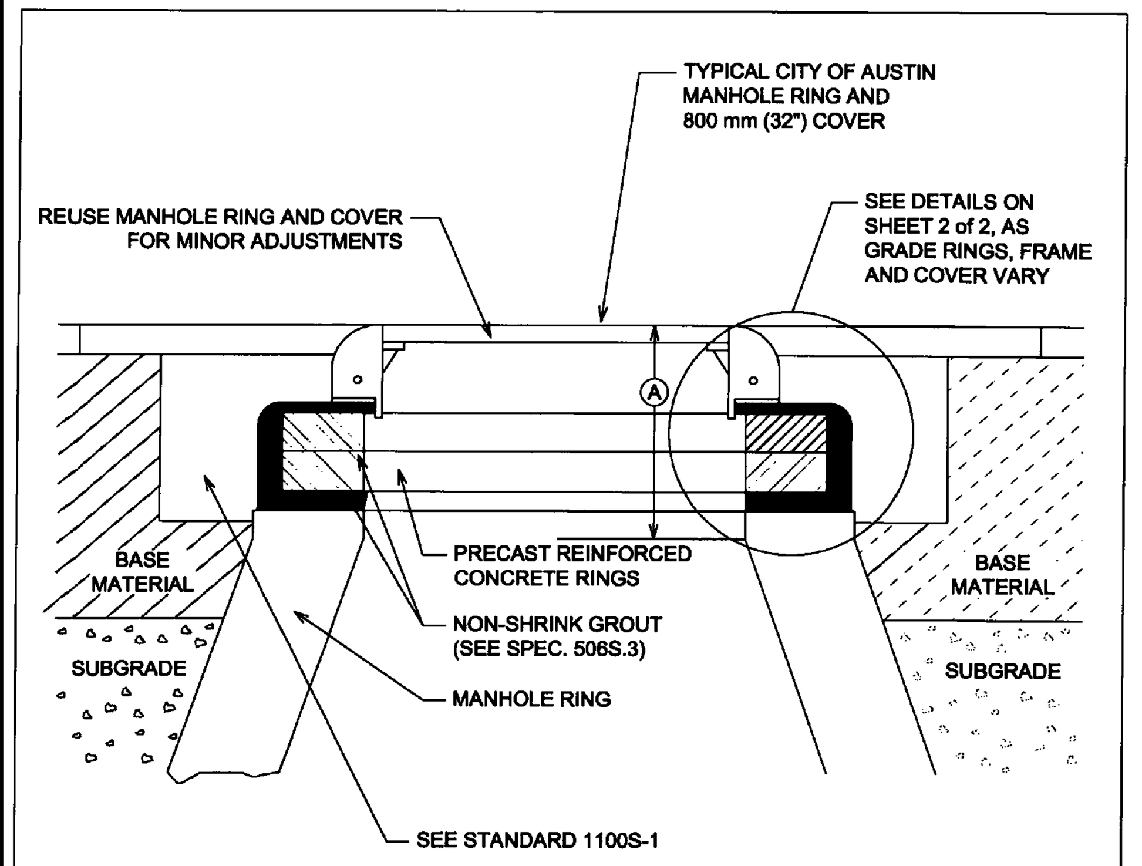
CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	PRE-CAST CONCRETE STORM DRAIN MANHOLE	
RECORD COPY SIGNED BY GEORGE E. OSWALD 2/14/02 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 506S-3 1 OF 2



1 / C3.5

CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	PRE-CAST CONCRETE STORM DRAIN MANHOLE	
ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 506S-3 2 OF 2

1 / C3.5



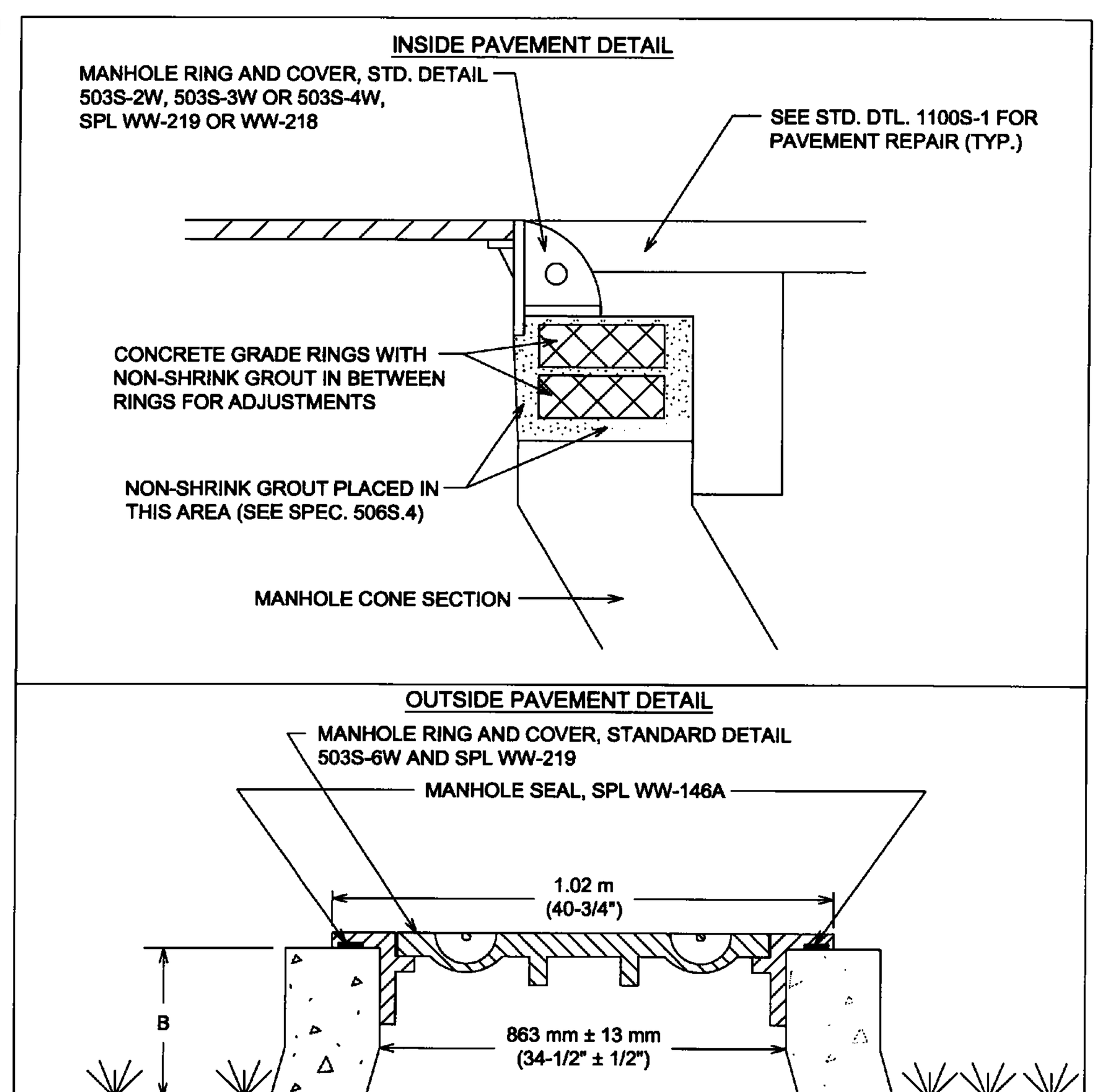
Ⓐ VERTICAL FACE = ALLOWABLE THROAT OR CHIMNEY HEIGHT
= NEW CONSTRUCTION = 525mm = (21") Max.
= EXISTING CONSTRUCTION = 675mm (27") Max.

NOTES:

1. NON-SHRINK GROUT SHALL NOT EXCEED 25 mm (1") IN ANY DIMENSION.
2. SUB-GRADE AND BASE MATERIALS SHALL BE COMPACTED ACCORDING TO ITEMS 201S AND 210S, RESPECTIVELY, OF THE CITY OF AUSTIN STANDARD SPECIFICATIONS.
3. REFER TO STANDARD 1100S-1 FOR REPAIRS AROUND MANHOLES.
4. SEE STANDARD 506S-4A FOR HDPE RING INSTALLATION (FOR USE IN PAVED AREAS ONLY).

CITY OF AUSTIN AUSTIN WATER UTILITY	MINOR MANHOLE ADJUSTMENT & NEW MANHOLE CONSTRUCTION	
8/31/2011	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 506S-4 1 OF 2

1 / C3.5

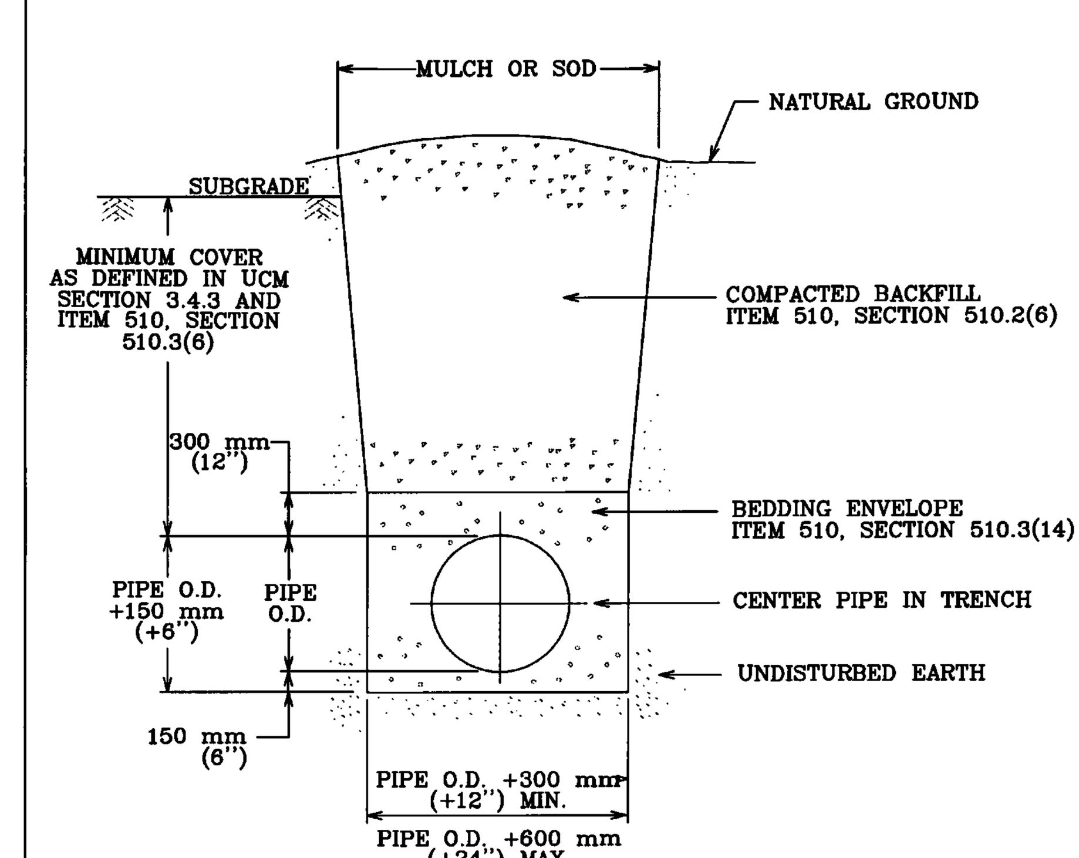


NOTES:

1. FOR USE IN UNPAVED AREAS ONLY
2. WHEN USED WITHIN 100-YEAR FLOODPLAIN, SEE DTL. 506S-6 FOR ADDITIONAL M.H. REQUIREMENTS.
3. DIMENSION B=150-300 mm (6"-12") FOR M.H. LOCATED IN 100-YR FLOOD PLAN. =50-300 mm (2"-12") FOR M.H. OUTSIDE 100-YR FLOOD PLAN.

CITY OF AUSTIN AUSTIN WATER UTILITY	MINOR MANHOLE ADJUSTMENT & NEW MANHOLE CONSTRUCTION	
8/31/2011	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 506S-4 2 OF 2

1 / C3.5



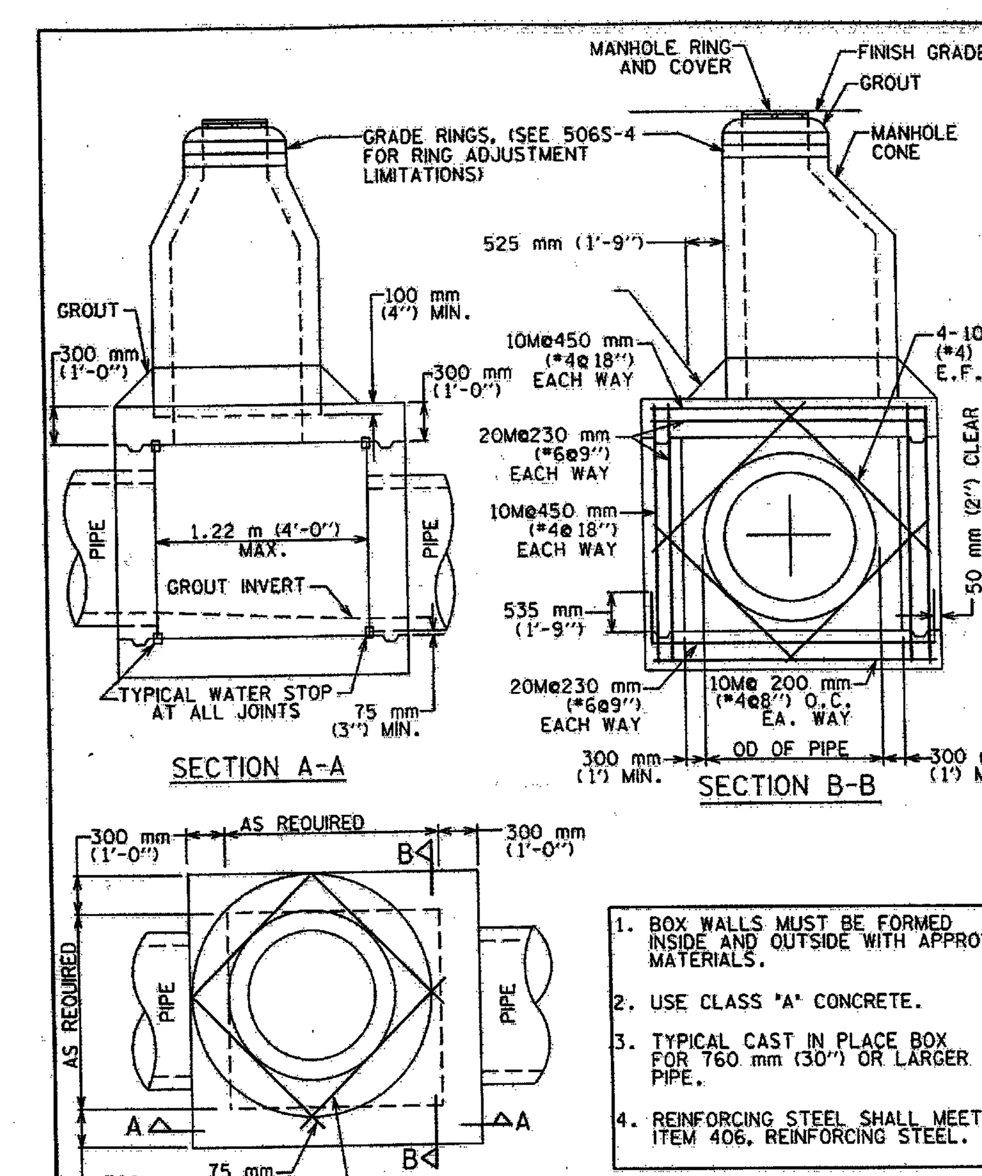
REFERENCES:

1. UTILITY CRITERIA MANUAL SECTION 3.4.3, "FINAL DESIGN"
2. STANDARD SPECIFICATION MANUAL ITEM 510, SECTION 510.2(6), "SELECT BACKFILL OR BORROW"; SECTION 510.3(6), "TRENCH DETAIL AND DEPTH OF COVER"; SECTION 510.3(14), "PIPE BEDDING ENVELOPE"

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPICAL TRENCH DETAIL WITH UNFINISHED SURFACE	
RECORD COPY SIGNED BY LEON BARBA 8/19/02 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 510S-5

NOTE: WRAP BEDDING MATERIAL IN GEOTEXTILE FILTER FABRIC WEBTEC TERRA NO. 4 OR APPROVED EQUAL.

2 / C3.5



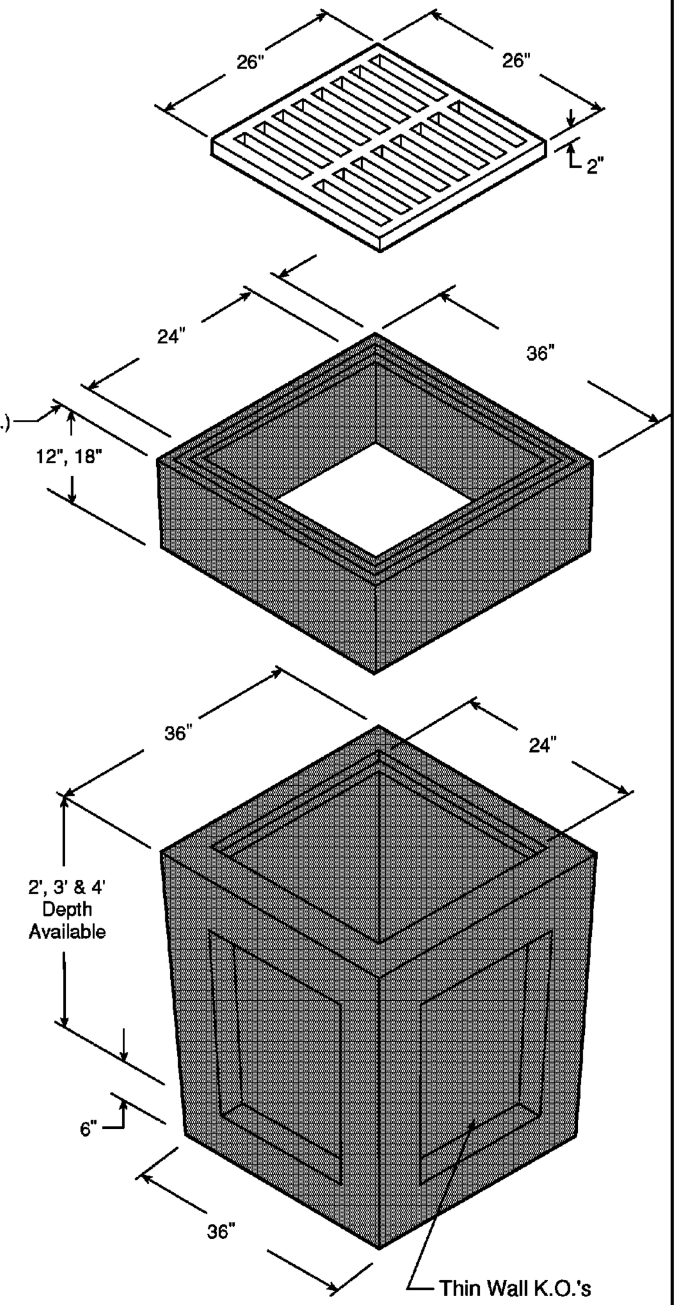
1. BOX WALLS MUST BE FORMED INSIDE AND OUTSIDE WITH APPROVED MATERIALS.
2. USE CLASS "A" CONCRETE.
3. TYPICAL CAST IN PLACE BOX FOR 760 mm (30") OR LARGER PIPE.
4. REINFORCING STEEL SHALL MEET ITEM 406, REINFORCING STEEL.

CITY OF AUSTIN WATER AND WASTEWATER UTILITY	TYPICAL BOX MANHOLE 760 mm (30") & LARGER PIPE	
2-17-04 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 506S-5

3 / C3.5 JUNCTION BOX DETAIL

Precast Drainage Structures

NOTE: SEE SHEET C2.2 FOR COLLAR DETAILS



NOTE: INLET GRATE SHALL BE A NEENAH R-4833-A TYPE A GRATE WITH 1/2"x4 1/2" OPENINGS OR ENGINEER APPROVED EQUIVALENT.

Materials & Features

MAXIMUM PIPE SIZE: 18" I.D. R.C.P.

CONCRETE: 5,000 PSI

REINFORCING: per ASTM A-615 or A-185

CAST IRON FRAME & GRATE per ASTM A 48; Class 30/35

GRATE WEIGHT: 100 Lbs.

CATCH BASIN WEIGHT:
2'.......... 1,580 Lbs.
3'.......... 2,500 Lbs.
4'.......... 3,420 Lbs.

EXTENSION WEIGHT:
12".......... 500 Lbs.
18".......... 750 Lbs.

4 / C3.5 GRATE INLET DETAIL

-No Scale-
All dimensions subject to allowable specification tolerances.

TITLE	PLANT	STATE	SECTION.PAGE	DATE	
#26 Catch Basin	Waco	TX	8.6	02-01-08	Hanson HEIDELBERGCEMENTGroup

CHAN & PARTNERS ENGINEERING, LLC
4319 JAMES CASEY STREET, #300
AUSTIN, TEXAS 78745
512-480-8155 (PH) ♦ 512-480-8811 (FAX)
E-mail: info@chanpartners.com
WWW.CHANPARTNERS.COM
TEXAS REGISTRATION NO. F-13013

HDR
Texas P.E. Firm Registration No. F-754

ISSUE	DATE	DESCRIPTION
–	–	–

PROJECT MANAGER	S. MUCHARD
DESIGNED BY	–
DRAWN BY	–
CHECKED BY	
DATE	
PROJECT NUMBER	220162

CPE CHAN & PARTNERS CONSULTING CIVIL ENGINEERS

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF JOHN R. KING, P.E. #58429 ON 7/22/2015. IT IS NOT TO BE USED FOR PERMITTING, BIDDING, OR CONSTRUCTION PURPOSES.

CITY OF AUSTIN FOUNDED 1839

ELIZA SPRING OUTLET DAYLIGHTING

Austin, Texas

CONSTRUCTION DETAILS

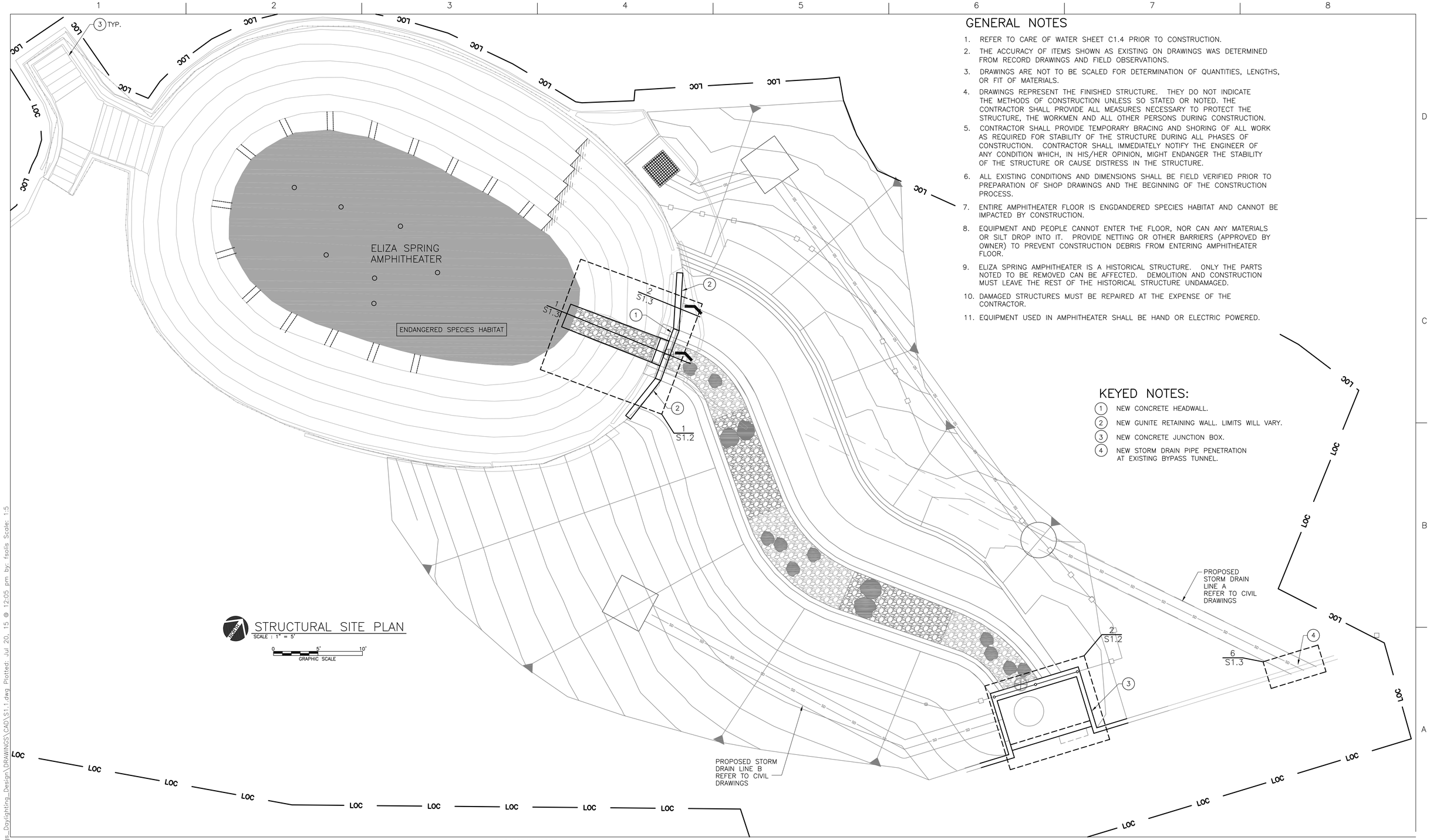
0 1" 2"

FILENAME	C-1049--DETAILS.DWG
SCALE	

SHEET C3.5

IF THIS SHEET IS NOT 34" X 22", IT IS A REDUCED PRINT.

Jul 22, 2015 - 11:53am Drawing name: J:\1049-Eliza Springs Improvements\00-Drawings\Permit\C-1049--DETAILS.dwg



STRUCTURAL SITE PLAN
SCALE : 1" = 5'
0 5' 10'
GRAPHIC SCALE

GENERAL NOTES

1. REFER TO CARE OF WATER SHEET C1.4 PRIOR TO CONSTRUCTION.
2. THE ACCURACY OF ITEMS SHOWN AS EXISTING ON DRAWINGS WAS DETERMINED FROM RECORD DRAWINGS AND FIELD OBSERVATIONS.
3. DRAWINGS ARE NOT TO BE SCALED FOR DETERMINATION OF QUANTITIES, LENGTHS, OR FIT OF MATERIALS.
4. DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHODS OF CONSTRUCTION UNLESS SO STATED OR NOTED. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE, THE WORKMEN AND ALL OTHER PERSONS DURING CONSTRUCTION.
5. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING AND SHORING OF ALL WORK AS REQUIRED FOR STABILITY OF THE STRUCTURE DURING ALL PHASES OF CONSTRUCTION. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONDITION WHICH, IN HIS/HER OPINION, MIGHT ENDANGER THE STABILITY OF THE STRUCTURE OR CAUSE DISTRESS IN THE STRUCTURE.
6. ALL EXISTING CONDITIONS AND DIMENSIONS SHALL BE FIELD VERIFIED PRIOR TO PREPARATION OF SHOP DRAWINGS AND THE BEGINNING OF THE CONSTRUCTION PROCESS.
7. ENTIRE AMPHITHEATER FLOOR IS ENGDANDERED SPECIES HABITAT AND CANNOT BE IMPACTED BY CONSTRUCTION.
8. EQUIPMENT AND PEOPLE CANNOT ENTER THE FLOOR, NOR CAN ANY MATERIALS OR SILT DROP INTO IT. PROVIDE NETTING OR OTHER BARRIERS (APPROVED BY OWNER) TO PREVENT CONSTRUCTION DEBRIS FROM ENTERING AMPHITHEATER FLOOR.
9. ELIZA SPRING AMPHITHEATER IS A HISTORICAL STRUCTURE. ONLY THE PARTS NOTED TO BE REMOVED CAN BE AFFECTED. DEMOLITION AND CONSTRUCTION MUST LEAVE THE REST OF THE HISTORICAL STRUCTURE UNDAMAGED.
10. DAMAGED STRUCTURES MUST BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.
11. EQUIPMENT USED IN AMPHITHEATER SHALL BE HAND OR ELECTRIC POWERED.

KEYED NOTES:

1. NEW CONCRETE HEADWALL.
2. NEW GUNITE RETAINING WALL. LIMITS WILL VARY.
3. NEW CONCRETE JUNCTION BOX.
4. NEW STORM DRAIN PIPE PENETRATION AT EXISTING BYPASS TUNNEL.

Jose I. Guerra, Inc.
Consulting Engineers
2401 South IH-35 Suite 210
Austin, Texas 78741
(512) 445-2090
Structural • Civil • Mechanical • Electrical
TBPE FIRM F-3

Texas P.E. Firm
Registration No. F-754

ISSUE	DATE	DESCRIPTION
C	07-20-15	90% DRAFT FOR REVIEW
B	10/03/14	90% DRAFT FOR REVIEW

PROJECT MANAGER	JL
DESIGNED BY	JL
DRAWN BY	FS
CHECKED BY	JL
DATE	07-20-15
PROJECT NUMBER	220162

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF KENNETH W. HANKS #97528 JULY, 2015

IT IS NOT TO BE USED FOR CONSTRUCTION OR ANY OTHER PURPOSE.

CITY OF AUSTIN FOUNDED 1839

ELIZA SPRING OUTLET DAYLIGHTING

Austin, Texas

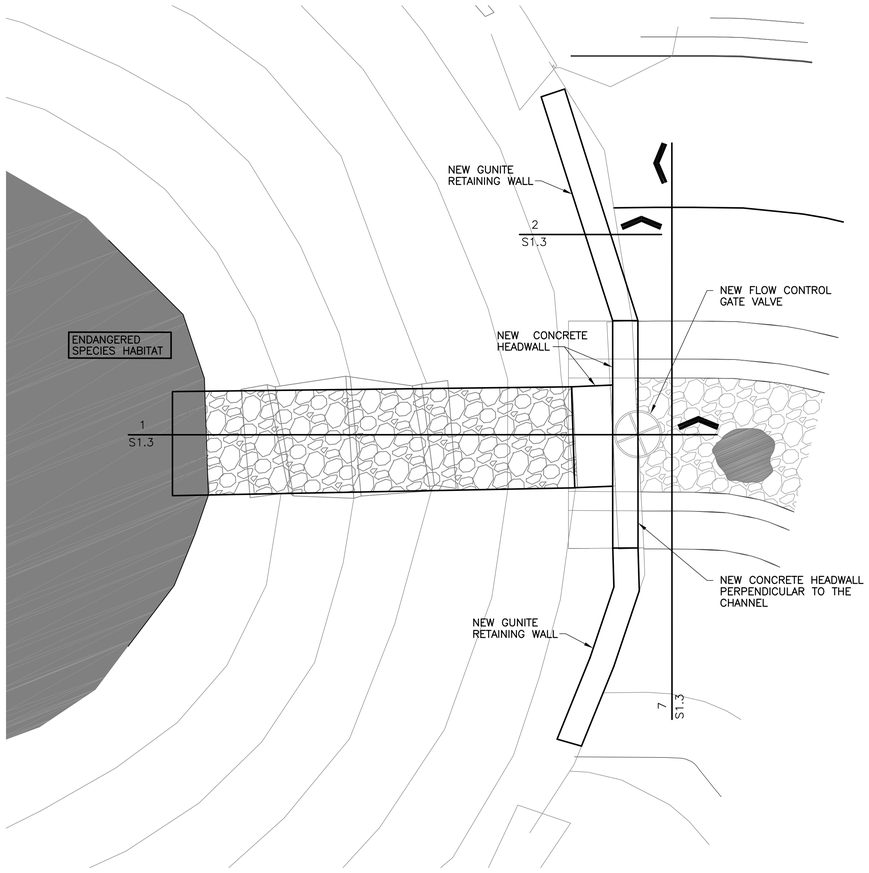
STRUCTURAL SITE PLAN

0 1" 2"

FILENAME

SCALE AS NOTED

SHEET S1.1

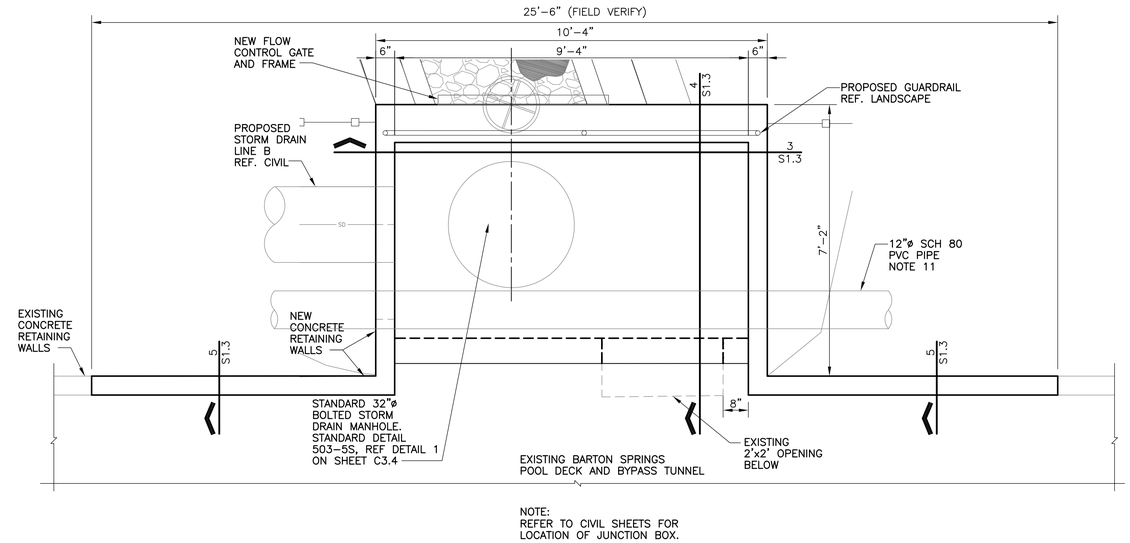


1 PROPOSED AMPHITHEATER KEYWAY FLOW CONTROL PLAN

SCALE: 1/2" = 1'-0"

GENERAL NOTES

1. THE ACCURACY OF ITEMS SHOWN AS EXISTING ON DRAWINGS WAS DETERMINED FROM RECORD DRAWINGS AND FIELD OBSERVATIONS.
2. DRAWINGS ARE NOT TO BE SCALED FOR DETERMINATION OF QUANTITIES, LENGTHS, OR FIT OF MATERIALS.
3. DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHODS OF CONSTRUCTION UNLESS SO STATED OR NOTED. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE, THE WORKMEN AND ALL OTHER PERSONS DURING CONSTRUCTION.
4. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING AND SHORING OF ALL WORK AS REQUIRED FOR STABILITY OF THE STRUCTURE DURING ALL PHASES OF CONSTRUCTION. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONDITION WHICH, IN HIS/HER OPINION, MIGHT ENDANGER THE STABILITY OF THE STRUCTURE OR CAUSE DISTRESS IN THE STRUCTURE.
5. ALL EXISTING CONDITIONS AND DIMENSIONS SHALL BE FIELD VERIFIED PRIOR TO PREPARATION OF SHOP DRAWINGS AND THE BEGINNING OF THE CONSTRUCTION PROCESS.
6. ENTIRE AMPHITHEATER FLOOR IS ENGDANDERED SPECIES HABITAT AND CANNOT BE IMPACTED BY CONSTRUCTION.
7. EQUIPMENT AND PEOPLE CANNOT ENTER THE FLOOR, NOR CAN ANY MATERIALS OR SILT DROP INTO IT. PROVIDE NETTING OR OTHER BARRIERS (APPROVED BY OWNER) TO PREVENT CONSTRUCTION DEBRIS FROM ENTERING AMPHITHEATER FLOOR.
8. ELIZA SPRING AMPHITHEATER IS A HISTORICAL STRUCTURE. ONLY THE PARTS NOTED TO BE REMOVED CAN BE AFFECTED. DEMOLITION AND CONSTRUCTION MUST LEAVE THE REST OF THE HISTORICAL STRUCTURE UNDAMAGED.
9. DAMAGED STRUCTURES MUST BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.
10. EQUIPMENT USED IN AMPHITHEATER SHALL BE HAND OR ELECTRIC POWERED.
11. REFER TO CIVIL FOR PIPE AND PIPINGSUPPORTS. PIPE MAY BE SUPPORTED FROM THE CONCRETE ROOF SPAB.



NOTE:
REFER TO CIVIL SHEETS FOR LOCATION OF JUNCTION BOX.

2 PROPOSED CONCRETE JUNCTION BOX PLAN

SCALE: 1/2" = 1'-0"

Jose I. Guerra, Inc.
Consulting Engineers
2401 South IH-35 Suite 210
Austin, Texas 78741
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Structural • Civil • Mechanical • Electrical
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ISSUE	DATE	DESCRIPTION
C	07-20-15	90% DRAFT FOR REVIEW
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PROJECT MANAGER	JL
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DRAWN BY	FS
CHECKED BY	JL
DATE	07-20-15
PROJECT NUMBER	220162

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ELIZA SPRING OUTLET DAYLIGHTING

Austin, Texas

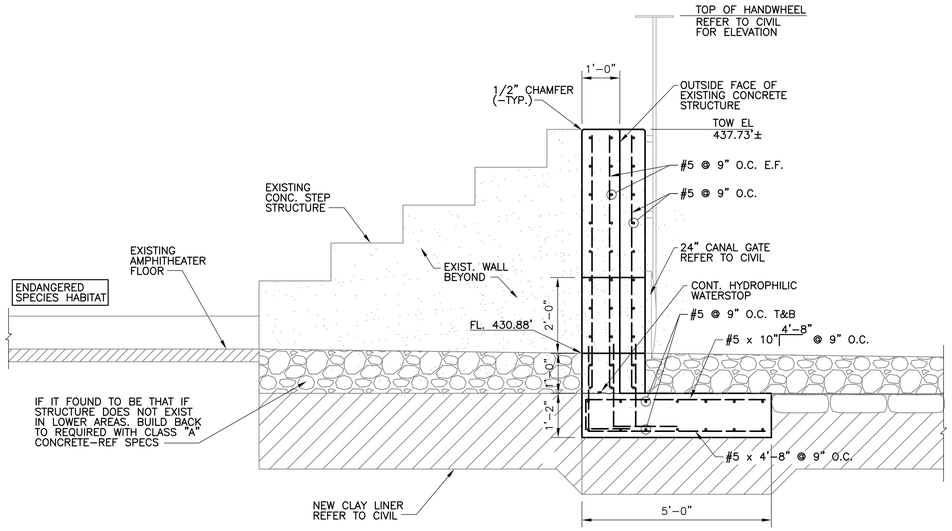
STRUCTURAL ENLARGED PLANS

0 1" 2"

FILENAME

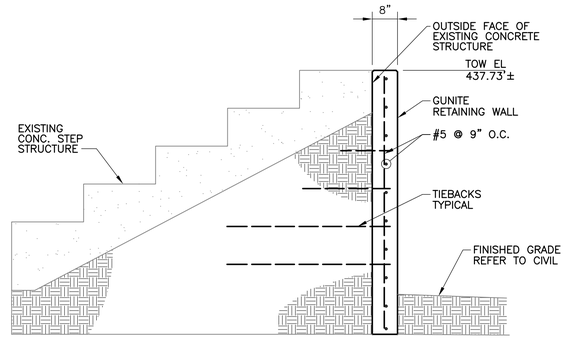
SCALE AS NOTED

SHEET **S1.2**



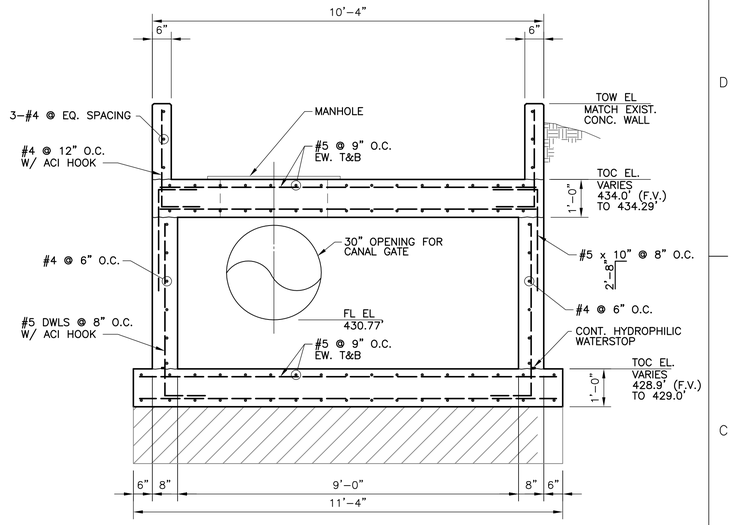
1 PROPOSED AMPHITHEATER KEYWAY FLOW CONTROL SECTION

SCALE: 1/2" = 1'-0"



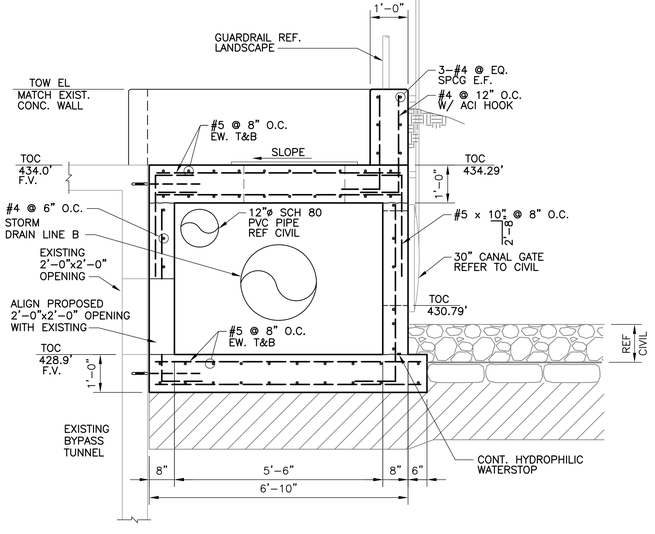
2 PROPOSED AMPHITHEATER GUNITE RETAINING WALL SECTION

SCALE: 1/2" = 1'-0"



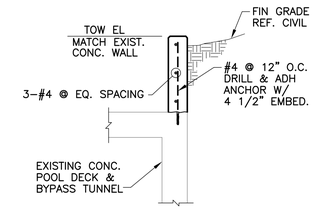
3 PROPOSED CONCRETE JUNCTION BOX SECTION

SCALE: 1/2" = 1'-0"



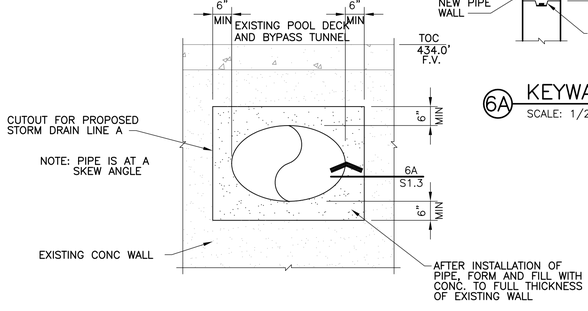
4 PROPOSED CONCRETE JUNCTION BOX SECTION

SCALE: 1/2" = 1'-0"



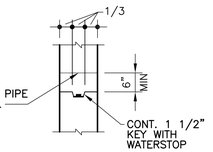
5 PROPOSED CONCRETE RETAINING WALL DETAIL

SCALE: 1/2" = 1'-0"



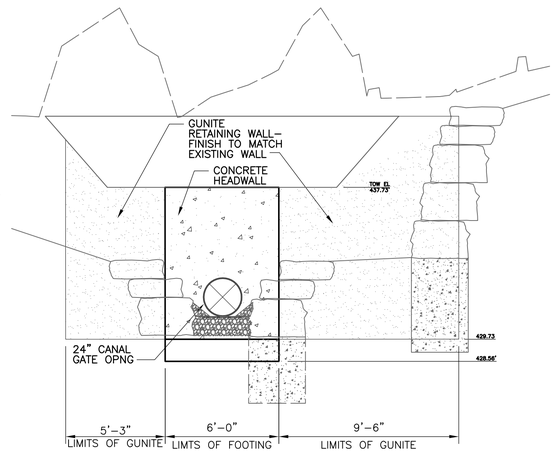
PROPOSED 24" SD PENETRATION THROUGH EXISTING BYPASS TUNNEL WALL DETAIL

6 SCALE: 1/2" = 1'-0"



6A KEYWAY DETAIL

SCALE: 1/2" = 1'-0"



PROPOSED ELEVATION OF INFILL WALL AND GUNITE WALL

7 SCALE: 1/4" = 1'-0"

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Registration No. F-754

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C	07-20-15	90% DRAFT FOR REVIEW
B	10/03/14	90% DRAFT FOR REVIEW

PROJECT MANAGER	JL
DESIGNED BY	JL
DRAWN BY	FS
CHECKED BY	JL
DATE	07-20-15
PROJECT NUMBER	220162

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CITY OF AUSTIN FOUNDED 1839

ELIZA SPRING OUTLET DAYLIGHTING

Austin, Texas

STRUCTURAL SECTIONS AND DETAILS

0 1" 2"

FILENAME $FILEABBREV$

SCALE AS NOTED

SHEET S1.3

REMOVABLE FENCE CONTROL POINTS		
	NORTHING	*EASTING*
1	10069181.77	3105754.593
2	10069185.13	3105758.378
3	10069185.65	3105762.344
4	10069175.83	3105774.975
5	10069169.25	3105779.519
6	10069161.93	3105782.746
7	10069155.31	3105787.246
8	10069151.22	3105794.118
9	10069138.44	3105803.740
10	10069130.64	3105805.540
11	10069123.84	3105784.271
12	10069129.66	3105769.368
13	10069133.86	3105762.557
14	10069139.06	3105756.478
15	10069154.29	3105751.592
16	10069156.64	3105749.261

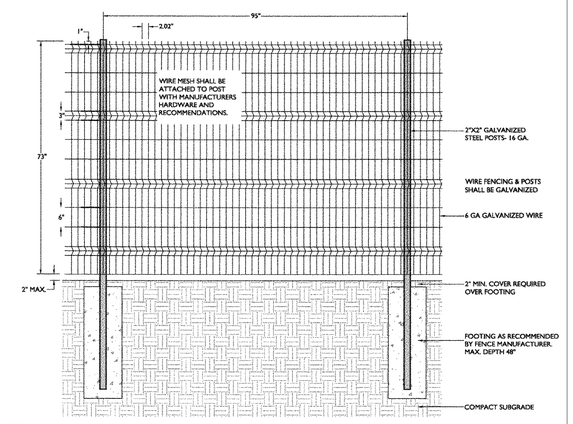
FENCE LEGEND

- EXISTING GRID FENCE
- EXISTING GRID FENCE, to be removed
- PROPOSED WIRE MESH FENCE (Detail E)
- PROPOSED OVERLOOK GUARDRAIL (Detail L)
- PROPOSED REMOVABLE FENCE (Detail J)

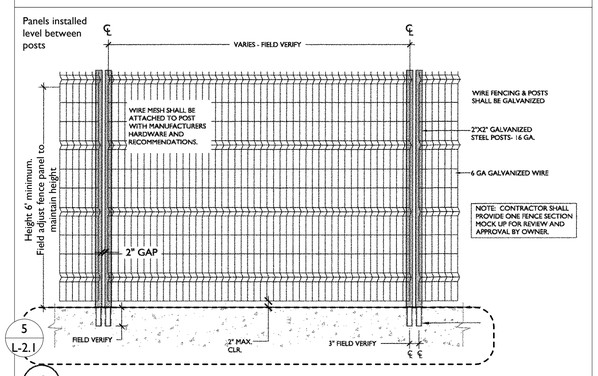
Wire Mesh Fence Manufacturer (or approved equal)
Designmaster Fence Systems
Product: Classic Fence System
Color: Black Powder Coat
Contact: Jorge Guerra
North Texas Sales Manager
Phone Number: 817-888-1287

Notes:
1. Contractor must have past experience installing Designmaster Fence products. Contractor shall provide written proof of past experience to Landscape Architect for review and approval prior to fence installation.
2. All fencing shall be installed per manufacturers recommendations.

PROPOSED WIRE MESH FENCE BEHIND EXISTING STONE WALL
PROPOSED WIRE MESH FENCE BEGINS
PROPOSED WIRE MESH FENCE BEHIND EXISTING STONE WALL
3 L-2.1 PROPOSED STAFF ACCESS GATE
PROPOSED WIRE MESH FENCE
PROPOSED REMOVABLE FENCE BEGINS AT EXISTING ELIZA FENCE
4 L-2.1 TRELLIS
TRELLIS
EXISTING WIRE MESH FENCE TO BE REMOVED
PROPOSED REMOVABLE FENCE ENDS AT EXISTING ELIZA FENCE
4 L-2.1 TRELLIS
PROPOSED WIRE MESH FENCE MEETS EXISTING CONCESSION STAND FENCE
LIMESTONE BOULDERS, to match 1' boulders used in channel varying widths, across planting bed
EXISTING WIRE MESH FENCE TO BE REMOVED
3 L-2.1 PROPOSED STAFF ACCESS GATE
PROPOSED REMOVABLE FENCE ENDS AT GUARDRAIL
PROPOSED REMOVABLE FENCE BEGINS AT GUARDRAIL
PROPOSED OVERLOOK GUARDRAIL ENDS
PROPOSED OVERLOOK GUARDRAIL BEGINS
PROPOSED OVERLOOK GUARDRAIL SURFACE MOUNTED TO APPROX 2' CONCRETE RETAINING WALL. FIELD VERIFY. TOTAL GUARDRAIL HEIGHT INCLUDING WALL IS 48".
6364
6289



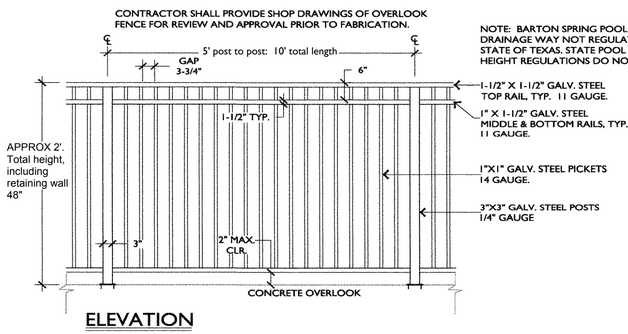
E 6' WIRE MESH FENCE - ELEVATION SCALE: 1/2"=1'-0"



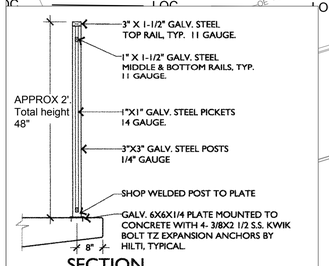
J REMOVABLE FENCING - ELEVATION SCALE: 1/2"=1'-0"

CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF OVERLOOK FENCE FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.

NOTE: BARTON SPRING POOL IS A CITY DRAINAGE WAY NOT REGULATED BY THE STATE OF TEXAS. STATE POOL FENCING HEIGHT REGULATIONS DO NOT APPLY.



ELEVATION



SECTION

L OVERLOOK GUARDRAIL DETAIL

Carolyn Kelley, ASLA
Landscape Architect
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carolyn@ckla.net
CK LA

HDR
Texas P.E. Firm
Registration No. F-754

ISSUE	DATE	DESCRIPTION
C	7/24/2015	90% RESUBMITTAL FOR REVIEW
B	10/3/2014	90% DRAFT FOR REVIEW
A	1/24/2014	60% DRAFT FOR REVIEW

PROJECT MANAGER	S MUCHARD
DESIGNED BY	CK
DRAWN BY	CK
CHECKED BY	CK
DATE	7/24/2015
PROJECT NUMBER	220162

NOT FOR CONSTRUCTION, PERMITTING OR REGULATORY APPROVAL

CITY OF AUSTIN FOUNDED 1839

ELIZA SPRING OUTLET DAYLIGHTING

Austin, Texas

FENCING PLAN

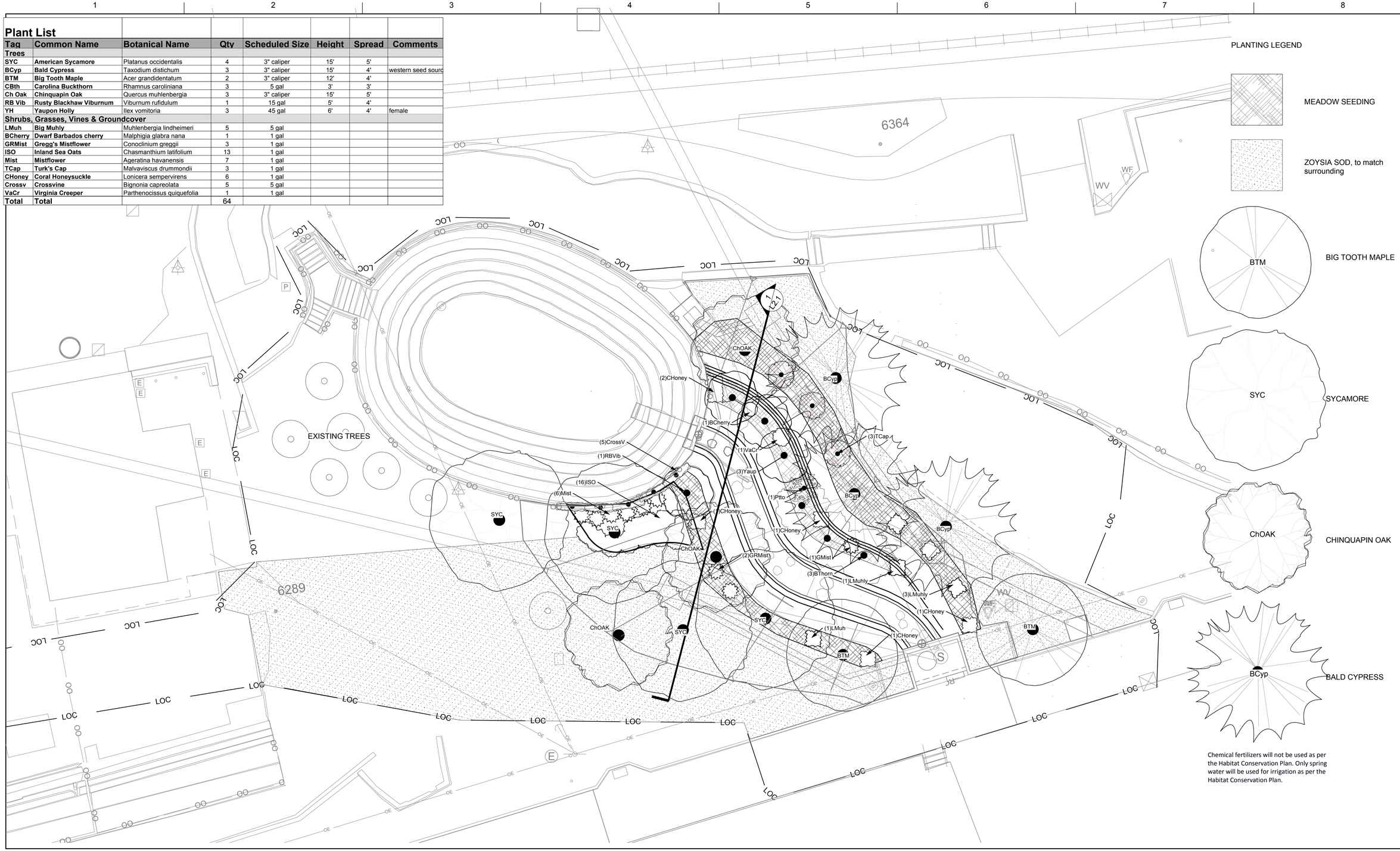
0 1" 2"

FILENAME ELIZA03
SCALE AS SHOWN

SHEET L1.1

Plant List

Tag	Common Name	Botanical Name	Qty	Scheduled Size	Height	Spread	Comments
Trees							
SYC	**American Sycamore**	Platanus occidentalis	4	3" caliper	15'	5'	
BCyp	**Bald Cypress**	Taxodium distichum	3	3" caliper	15'	4'	western seed sourc
BTM	**Big Tooth Maple**	Acer grandidentatum	2	3" caliper	12'	4'	
CBth	**Carolina Buckthorn**	Rhamnus caroliniana	3	5 gal	3'	3'	
Ch Oak	**Chinquapin Oak**	Quercus muhlenbergia	3	3" caliper	15'	5'	
RB Vib	**Rusty Blackhaw Viburnum**	Viburnum rufidulum	1	15 gal	5'	4'	
YH	**Yaupon Holly**	Ilex vomitoria	3	45 gal	6'	4'	female
Shrubs, Grasses, Vines & Groundcover							
LMuh	**Big Muhly**	Muhlenbergia lindheimeri	5	5 gal			
BCherry	**Dwarf Barbados cherry**	Malphigia glabra nana	1	1 gal			
GRMist	**Gregg's Mistflower**	Conoclinium greggii	3	1 gal			
ISO	**Inland Sea Oats**	Chasmanthium latifolium	13	1 gal			
Mist	**Mistflower**	Ageratina havanensis	7	1 gal			
TCap	**Turk's Cap**	Malvaviscus drummondii	3	1 gal			
CHoney	**Coral Honeysuckle**	Lonicera sempervirens	6	1 gal			
Crossv	**Crossvine**	Bignonia capreolata	5	5 gal			
VaCr	**Virginia Creeper**	Parthenocissus quiquefolia	1	1 gal			
Total	**Total**		64				



Carolyn Kelley, ASLA
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CITY OF AUSTIN FOUNDED 1839

ELIZA SPRING OUTLET DAYLIGHTING

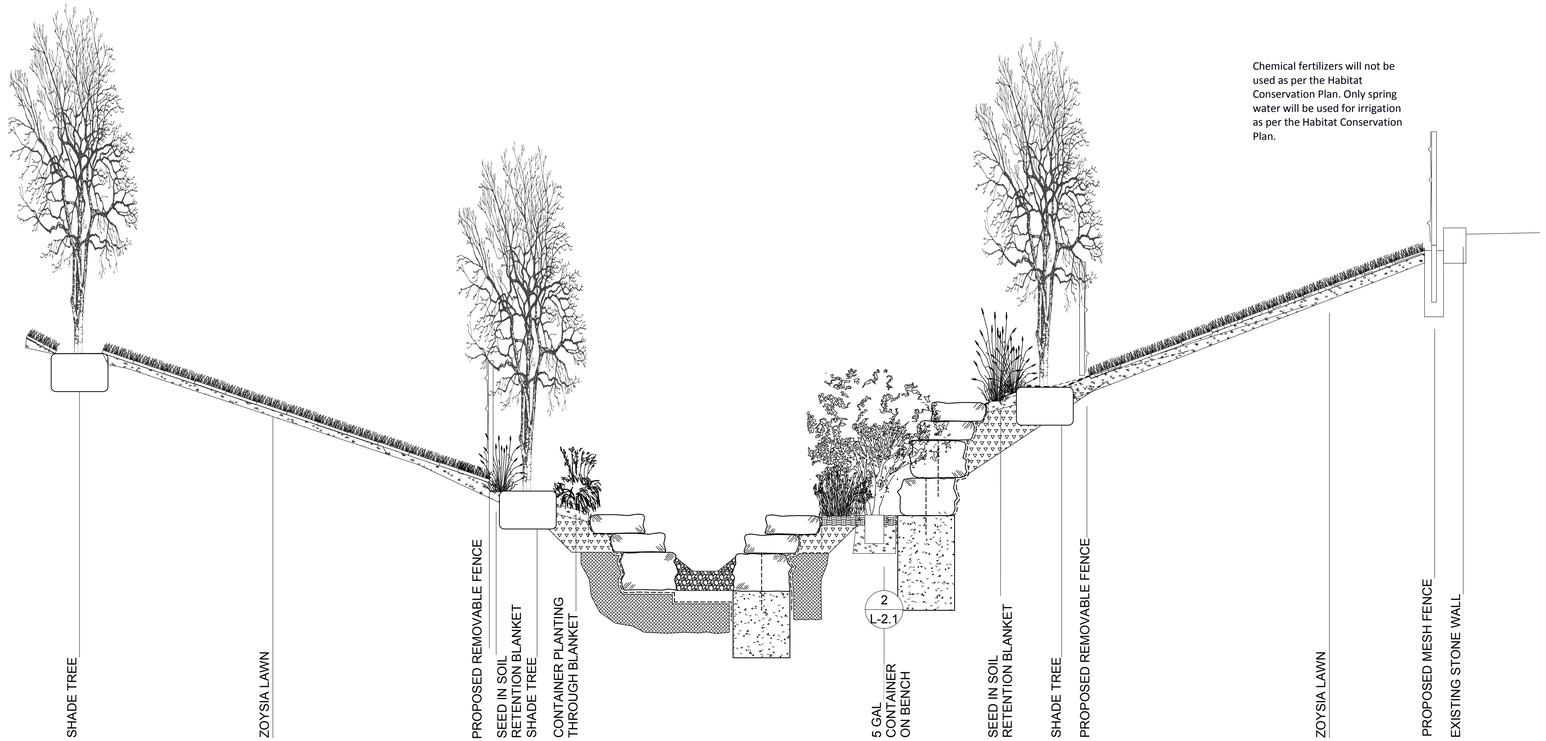
Austin, Texas

PLANTING PLAN

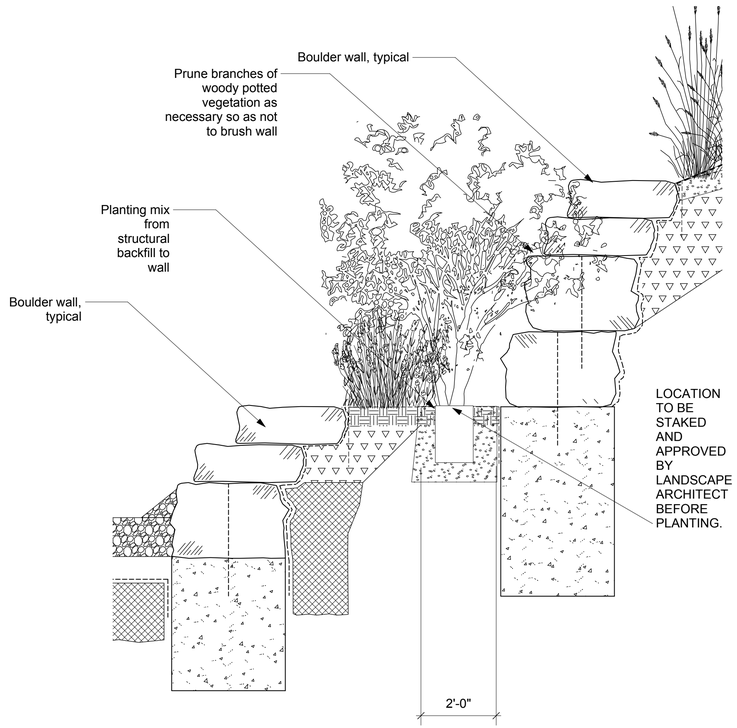
0 1" 2"

FILENAME ELIZA03
SCALE AS SHOWN

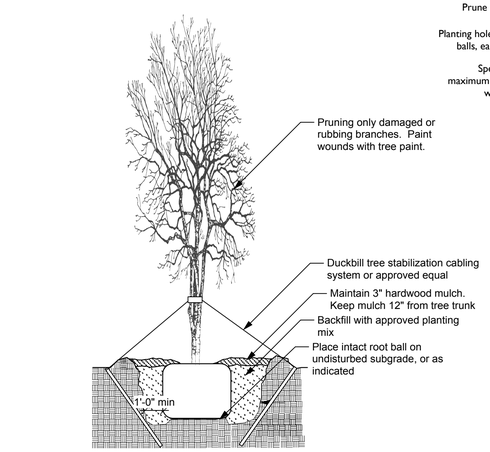
SHEET L1.2



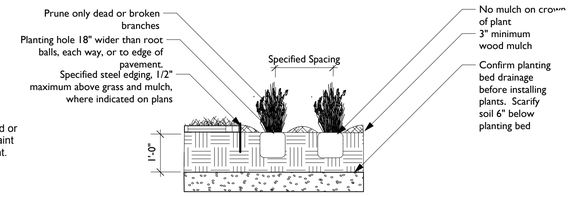
1 SECTION 1
Scale: 1/4" = 1'-0"



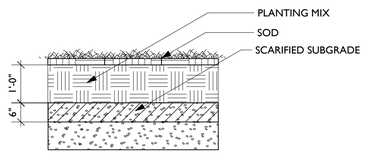
2 L-2.1 WOODY PLANTING IN BENCH
Scale: 1/2" = 1'-0"



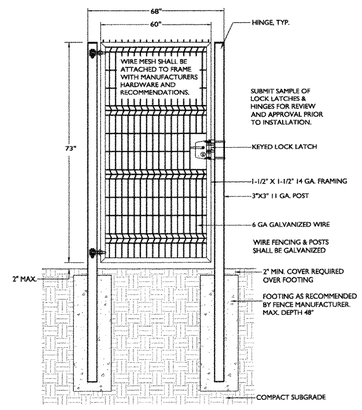
TYP TREE PLANTING- TYPICAL
Scale: 1/4" = 1'-0"



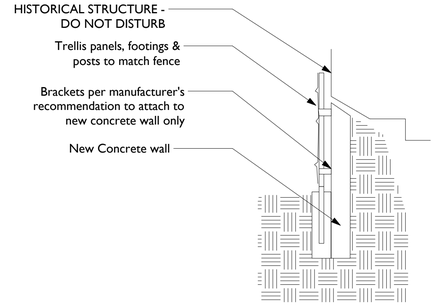
TYP TYPICAL PLANTING BED
Scale: 1/2" = 1'-0"



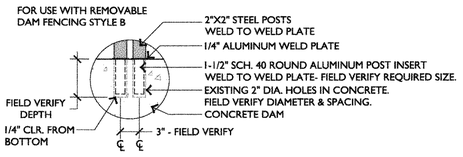
TYP TYPICAL SOD LAWN
Scale: 1/2" = 1'-0"



3 L-2.1 WIRE MESH SINGLE GATE - ELEVATION
SCALE: 1/2"=1'-0"



4 L-2.1 TRELLIS DETAIL
Scale: 1/4" = 1'-0"



5 L-2.1 REMOVABLE FENCE FOOTING
Scale: Actual Size

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CK LA

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DRAWN BY	CK
CHECKED BY	CK
DATE	7/24/2015
PROJECT NUMBER	220162

NOT FOR CONSTRUCTION, PERMITTING OR REGULATORY APPROVAL

CITY OF AUSTIN FOUNDED 1839

ELIZA SPRING OUTLET DAYLIGHTING

Austin, Texas

LANDSCAPE SECTIONS & DETAILS

0 1" 2"

FILENAME ELIZA03
SCALE AS SHOWN

SHEET
L2.1

CRITICAL ANALYSIS

Generated:	2015-06-16 11:34
P.O.C. NUMBER:01	
Water Source Information:	
FLOW AVAILABLE	
Custom Max Flow:	100.00 gpm
Flow Available:	100.00 gpm
PRESSURE AVAILABLE	
Static Pressure at POC:	75.00 psi
Pressure Available:	75.00 psi
DESIGN ANALYSIS	
Maximum Station Flow:	18.00 gpm
Flow Available at POC:	100.00 gpm
Residual Flow Available:	82.00 gpm
Critical Station:	1
Design Pressure:	30.00 psi
Elevation Loss:	1.30 psi
Friction Loss:	3.31 psi
Fittings Loss:	0.38 psi
Loss through Valve:	12.33 psi
Pressure Req. at Critical Station:	47.27 psi
Loss for Fittings:	0.00 psi
Loss for Main Line:	0.08 psi
Loss for POC to Valve Elevation:	0.00 psi
Loss for Backflow:	0.00 psi
Critical Station Pressure at POC:	47.30 psi
Pressure Available:	75.00 psi
Residual Pressure Available:	27.70 psi

REFERENCE NOTES SCHEDULE

SYMBOL	DESCRIPTION
1	Existing irrigation system sections are shown that need to need to remain functional with repairs or replacements of spray heads, rotors, and pipe, ect as necessary.
2	Tie into existing 2-1/2 inch mainline at this point with new mainline as indicated
3	A 12 inch carrier pipe will be available as a sleeve for the existing irrigation mainline (2-1/2"), existing two (2) laterals (both 1"), new irrigation lateral (1/2"), and a 2" inch PVC sleeve for existing and new control wiring.
4	Refer to Sheet IR2 - Irrigation Schedule for explaination of irrigation symbols.

Check with COA personnel on the exact location of the controller and rain sensor

1 | 1" | 5.33

2 | 1" | 3.50

3 | 1" | 3.19

4 | 1" | 18.0

5 | 1" | 16.2

NORTH

0 8 16 24 feet

SCALE: 1/8" = 1'-0"

		PROJECT MANAGER	S MUCHARD
		DESIGNED BY	GW
		DRAWN BY	GW
		CHECKED BY	GW
A	7/24/2015	DATE	07/24/2015
	90% CD Resubmittal	PROJECT NUMBER	220162
ISSUE	DATE DESCRIPTION		

Texas P.E. Firm
Registration No. F-754

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CITY OF AUSTIN FOUNDED 1839

ELIZA SPRING OUTLET DAYLIGHTING

Austin, Texas

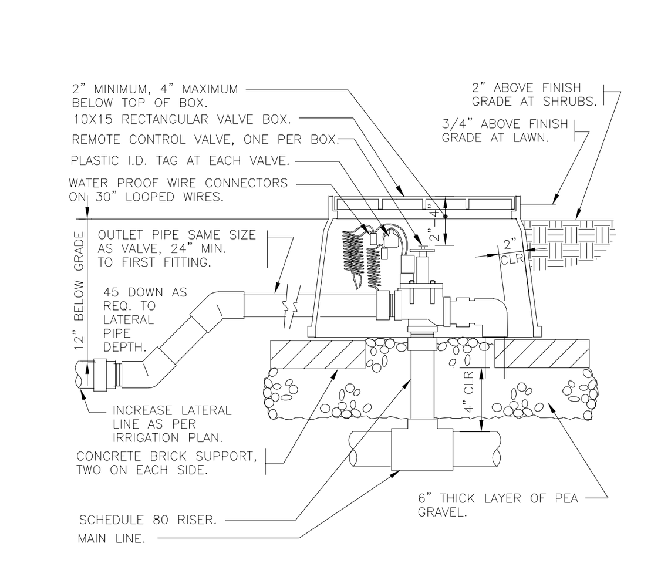
0 1" 2"

FILENAME ELIZA03

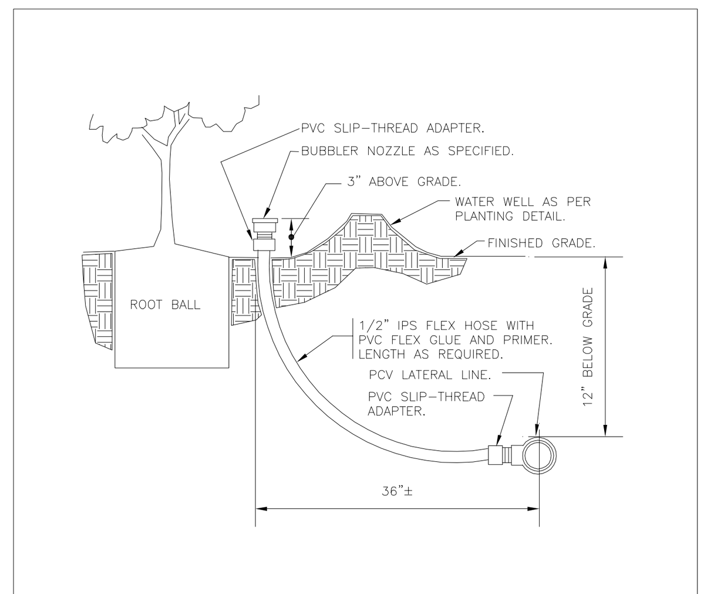
SCALE AS SHOWN

SHEET IR1

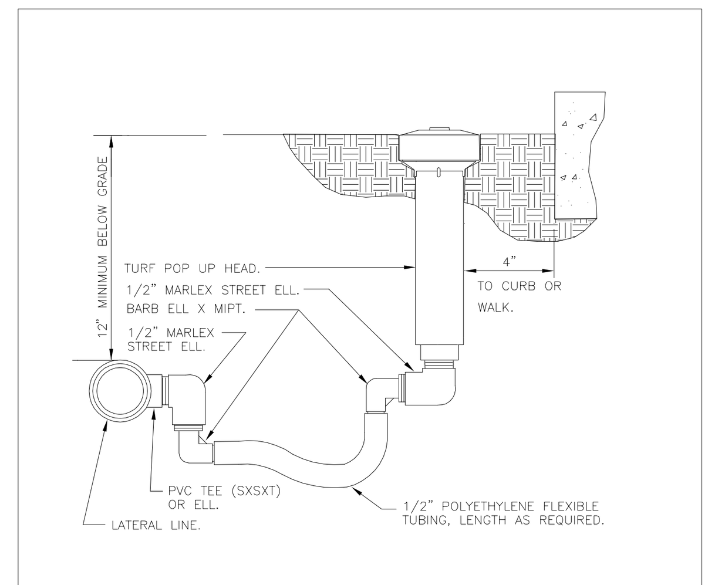
1	2	3	4	5	6	7	8



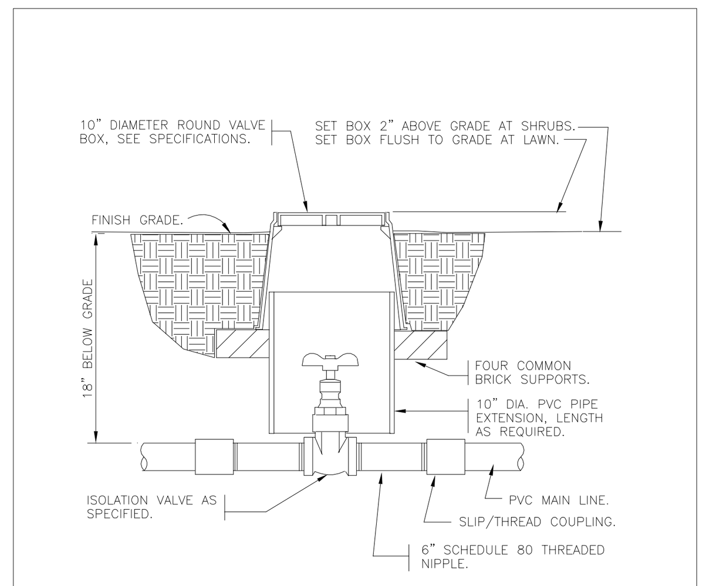
ELECTRIC REMOTE CONTROL VALVE



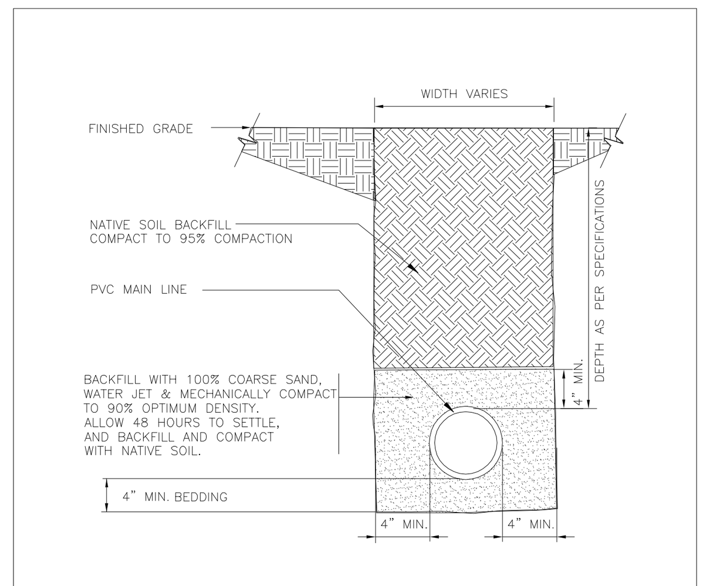
BUBBLER ON FLEX HOSE RISER



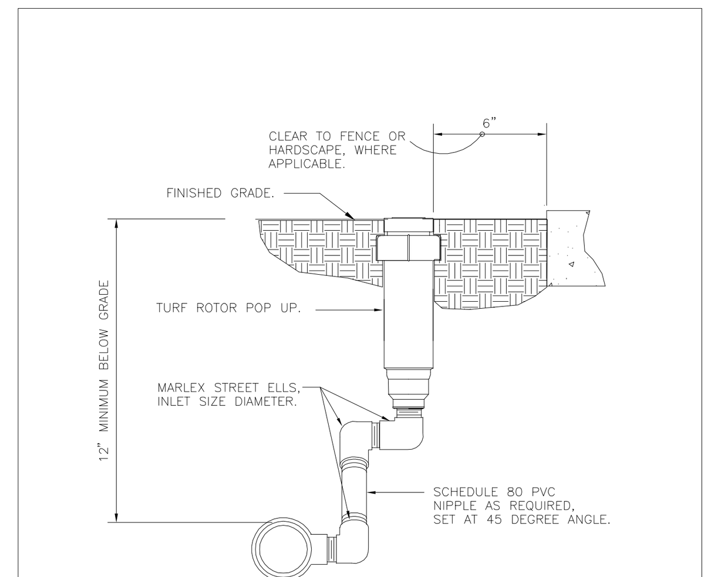
TURF SPRAY FLEX ASSEMBLY



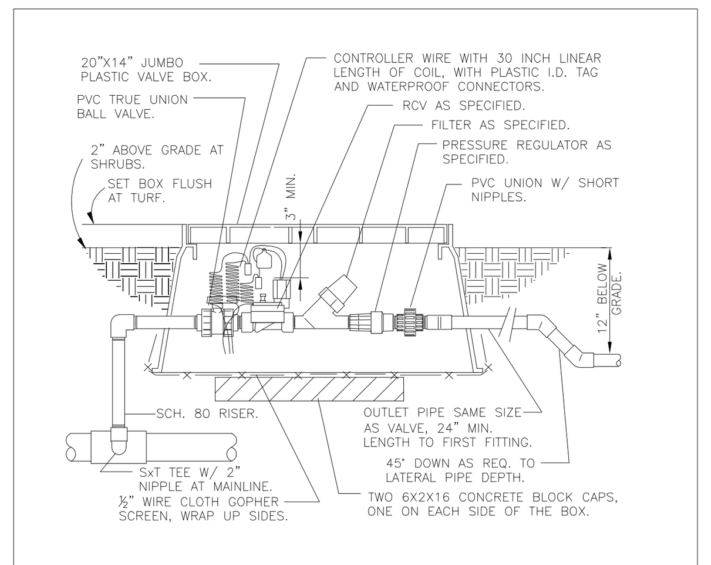
BRASS ISOLATION VALVE



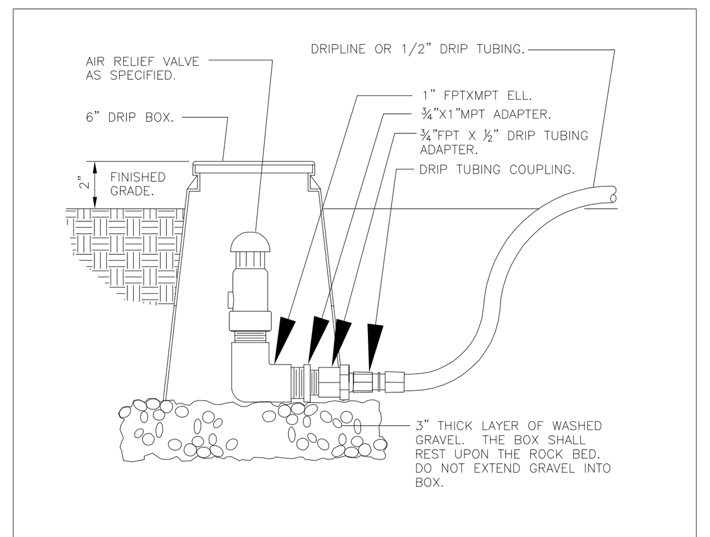
MAINLINE WITH SAND BEDDING



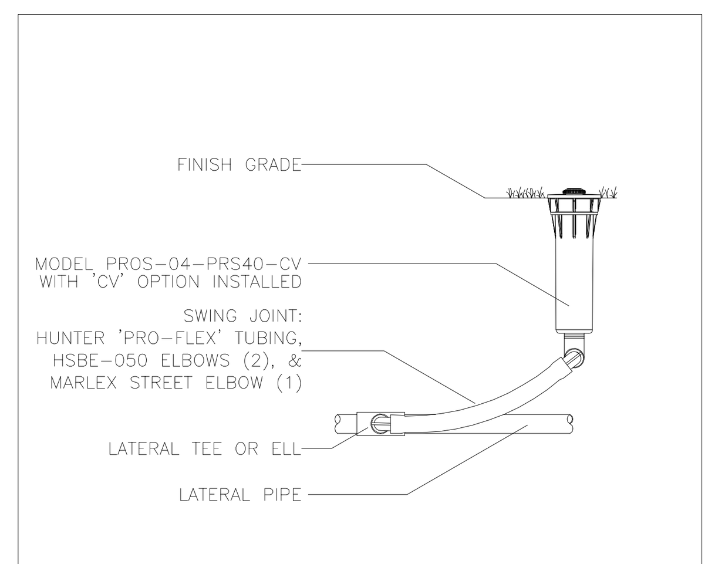
TURN ROTOR MARLEX ASSEMBLY



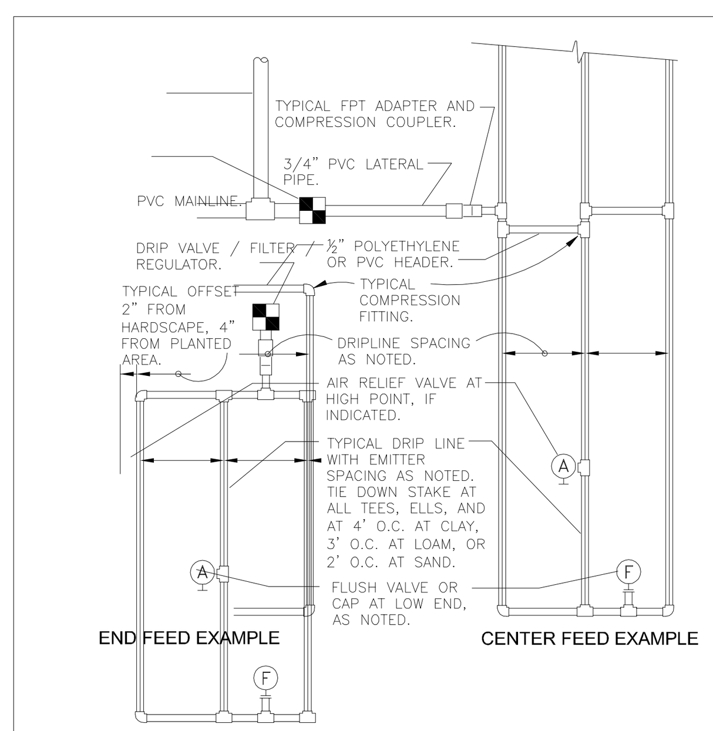
DRIP VALVE/FILTER/REGULATOR



DRIP AIR RELIEF VALVE IN BOX



MP ROTATOR SPRINKLER



MAXIMUM LATERAL LENGTH (FEET)

PSI	12" SPACING 0.6	12" SPACING 0.9	18" SPACING 0.6	18" SPACING 0.9	24" SPACING 0.6	24" SPACING 0.9
	EMITTER FLOW RATE GPH					
10	125	96	175	135	218	171
20	249	191	350	171	442	340
30	307	236	434	333	550	422
40	350	268	495	380	627	171
50	125	96	175	135	218	171
60	125	96	175	135	218	171

GRID PRECIPITATION RATES (IN/HR)

EMITTER SPACING	LATERAL SPACING	EMITTER FLOW RATE 0.6	EMITTER FLOW RATE 0.9
12	12	0.96	1.44
18	18	0.69	1.03
24	24	0.28	0.41

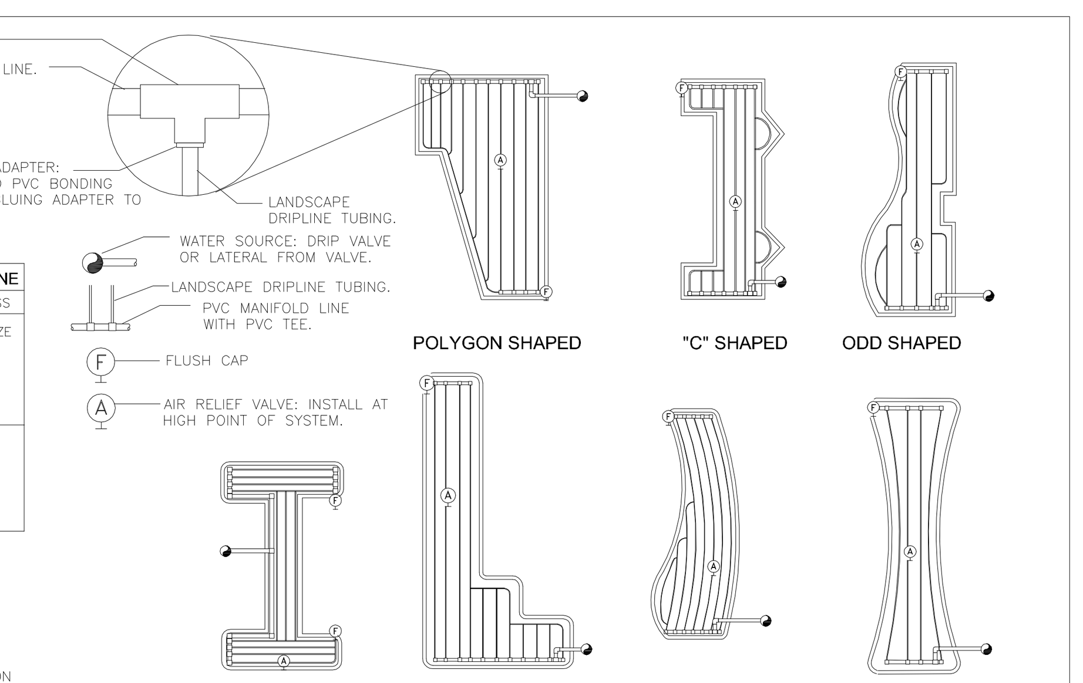
LATERAL FLOW PER 100 FT (GPM)

EMITTER FLOW	12" SPACING	18" SPACING	24" SPACING
0.6 GPH	1.0 GPM	0.67 GPM	0.50 GPM
0.9 GPH	1.5 GPM	1.0 GPM	0.75 GPM

MAXIMUM FLOW PER ZONE

	MAX GPM	PSI LOSS
SCHEDULE 40 PVC HEADER SIZE		
1/2"	4.7 GPM	7.7 PSI
3/4"	8.3 GPM	5.6 PSI
1"	13.5 GPM	4.2 PSI
1-1/2"	33.9 GPM	2.9 PSI
2"	52.4 GPM	1.9 PSI
POLY PIPE HEADER SIZE		
1/2"	4.7 GPM	8.8 PSI
3/4"	8.3 GPM	6.3 PSI
1"	13.5 GPM	4.8 PSI
1-1/2"	31.8 GPM	2.9 PSI
2"	52.4 GPM	2.2 PSI

SLOPED CONDITION NOTE:
1. DRIPLINE LATERALS SHOULD FOLLOW THE CONTOURS OF THE SLOPE WHENEVER POSSIBLE.
2. INSTALL AIR RELIEF VALVE AT HIGHEST POINT.
3. NORMAL SPACING WITHIN THE TOP ⅔ OF SLOPE.
4. INSTALL DRIPLINE AT 25% GREATER SPACING AT THE BOTTOM ⅓ OF THE SLOPE.
5. WHEN ELEVATION CHANGE IS 10 FT OR MORE, ZONE THE BOTTOM ⅓ ON A SEPARATE VALVE.



TYPICAL DRIPLINE REQUIREMENTS

IRRIGATION SCHEDULE

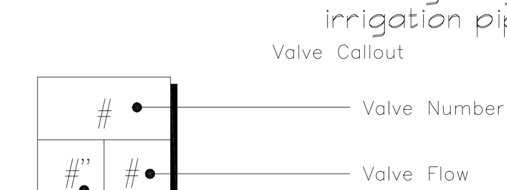
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
M L O	Hunter MP1000 PROS-06-PRS40-CV-R Turf Rotator, 6" (15.24 cm) pop-up with check valve, reclaimed body cap, pressure regulated to 40 psi (2.76 bar), MP Rotator nozzle on PRS40 body. M=Maroon adj arc 90 to 210, L=Light Blue 210 to 270 arc, O=Olive 360 arc.
T	Hunter MP Corner PROS-06-PRS40-CV-R Turf Rotator, 6" (15.24 cm) pop-up with factory installed check valve, reclaimed body cap, pressure regulated to 40 psi (2.76 bar), MP Rotator nozzle on PRS40 body. T=Turquoise adj arc 45-105.
25 50 10 20	Hunter PCB-R Flood Bubbler, 1/2" FIPT. With Purple Cap for Reclaimed Water Use.

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
1.5	Hunter PGP-ADJ-B Turf Rotor, 4.0" Pop-Up. Adjustable and Full Circle. Standard Angle Blue Nozzle.
2.5	Hunter PGP-ADJ-B Turf Rotor, 4.0" Pop-Up. Adjustable and Full Circle. Standard Angle Blue Nozzle.
3.0	Hunter PGP-ADJ-B Turf Rotor, 4.0" Pop-Up. Adjustable and Full Circle. Standard Angle Blue Nozzle.
5.0	Hunter PGP-ADJ-B Turf Rotor, 4.0" Pop-Up. Adjustable and Full Circle. Standard Angle Blue Nozzle.

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Hunter ICZ-101-40 Drip Control Zone Kit. 1" ICV Globe Valve with 1" HY100 filter system. Pressure Regulation: 40psi. Flow Range: 2 GPM to 20 GPM. 150 mesh stainless steel screen.
	Area to Receive Dripline Netafim 08WRAM-06-12 (18) Bioline Pressure Compensating Landscape Dripline w/Purple Color Tubing for Non-Potable Water Applications. 0.6GPH emitters at 12.0" O.C. Dripline laterals spaced at 18.0" apart, with emitters offset for triangular pattern. Reclaimed Water Use Only.

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Hunter ICV-G-FS-R 1", 1-1/2", 2", and 3" Plastic Electric Remote Control Valves, Globe Configuration, with NPT Threaded Inlet/Outlet, for Commercial/Municipal Use. With Filter Sentry Factory Installed Option, and Reclaimed Water ID, Purple Handle.
C	Hunter XCH-0600-SS Electromechanical controller, 6 stations, outdoor model, battery-powered. Stainless Steel Cabinet. For residential/commercial use.
RS	Hunter MINI-CLIK Rain Sensor, mount as noted
PUMP	Existing Pump
	Irrigation Lateral Line: PVC Class 200 SDR 21 PVC Class 200 irrigation pipe. Only lateral transition pipe sizes 3/4" and above are indicated on the plan, with all others being 1/2" in size.
	New Irrigation Mainline: PVC Class 200 SDR 21 irrigation pipe.
	Existing Irrigation Mainline: PVC Class 200 SDR 21 irrigation pipe.

Valve Callout



Design Notes

(1) Sprinkler heads and driplines must be placed at least 6 inches inches from impervious surfaces such as streets, sidewalks and driveways.
(2) Use of sprinklers is prohibited on landscaped strips less than six feet wide. Surface or subsurface drip irrigation may be used in lieu of sprinklers.
(3) All Dripline zones must have an Air Relief Valve and a Flush Valve.
(4) All local municipal and state laws rules and regulations governing or relating to any portion of this work are hereby incorporated into and made a part of these specifications and their provisions shall be carried out by the Contractor. In case of conflict between specifications, drawings, and/or code, the more stringent requirement shall prevail.
(5) The mainline and sleeving is diagrammatic. All piping is for design clarification only and shall be installed within limit of work boundaries. Avoid any conflicts between the irrigation system, planting and architectural features.
(6) Irrigation equipment as shown is diagrammatic.
(7) Do not willfully install any equipment as shown on the plans when it is obvious in the field that unknown conditions exist that were not evident at the time these plans were prepared.
(8) All heads are to be adjusted to prevent overspray onto buildings, walls, fences and hardscape.
(9) The irrigation system design is based on the minimum operating pressure and the maximum flow demand shown on the irrigation drawings at each point of connection. The irrigation Contractor shall verify water pressure by direct field measurement prior to construction.
(10) Wiring splices must be waterproof.
(11) Wiring must be minimum of #14 gauge, UL rated for direct burial and must be buried a minimum of 6 inches.
(12) Must use colored primer.
(13) Rain or moisture sensor/shut-off devices required.
(14) Lateral pipe to be installed at a minimum of 8 inches, and mainline pipe at a minimum of 18 inches.
(15) Trenches and holes must be returned to original grade using select fill.
(16) No drinking or domestic use allowed from irrigation system.
(17) If Quick Coupling valves are installed, there must be a PVC gate valve between the QCV and source of water. Lids must be purple for QCV.
(18) Machine trenching is not permitted within the root zone of existing trees. Hand dig is required within the root zone of existing trees. Do not cut roots over 1 inch in diameter.

D

C

B

A

VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	PSI	PSI @ POC	GPM	HEAD ELEV	VALVE ELEV	PRECIP
1	Hunter ICZ-101-40	1"	Area for Dripline	47.27	47.30	5.33	3.00 ft	0.00 ft	0.67 in/h
2	Hunter ICV-G-FS-R	1"	Turf Rotary	46.89	46.90	3.50	8.00 ft	0.00 ft	0.28 in/h
3	Hunter ICZ-101-40	1"	Area for Dripline	46.97	45.25	3.19	8.00 ft	-4.00 ft	0.67 in/h
4	Hunter ICV-G-FS-R	1"	Bubbler	41.34	39.86	18.00	11.00 ft	-4.00 ft	15.32 in/h
5	Hunter ICV-G-FS-R	1"	Turf Rotor	46.67	45.19	16.20	10.00 ft	-4.00 ft	1.30 in/h

SUGGESTED SUMMER WATERING SCHEDULE

NUMBER	MODEL	TYPE	PRECIP	IN./WEEK	MIN./WEEK	GAL./WEEK	GAL./DAY
1	Hunter ICZ-101-40	Area for Dripline	0.67 in/h	0.80	72	383.6	
2	Hunter ICV-G-FS-R	Turf Rotary	0.28 in/h	1	216	756.3	
3	Hunter ICZ-101-40	Area for Dripline	0.67 in/h	0.80	72	229.7	
4	Hunter ICV-G-FS-R	Bubbler	15.32 in/h	7	28	504	
5	Hunter ICV-G-FS-R	Turf Rotor	1.30 in/h	1	47	761.4	
		TOTALS:			435	2,635	

Texas P.E. Firm
Registration No. F-754

ISSUE	DATE	DESCRIPTION
A	07/24/2015	90% CD RESUBMITTAL

PROJECT MANAGER	S MUCHARD
DESIGNED BY	GW
DRAWN BY	GW
CHECKED BY	GW
DATE	07/24/2015
PROJECT NUMBER	220162

NOT FOR CONSTRUCTION, PERMITTING, OR REGULATORY APPROVAL

CITY OF AUSTIN FOUNDED 1839

ELIZA SPRING OUTLET DAYLIGHTING

Austin, Texas

0 1" 2"

FILENAME	ELIZA03
SCALE	AS SHOWN

SHEET

IR2